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ABSTRACT

High school graduate projections from late 1987 to the year 2004 are made for total public and nonpublic high school graduates for all 50 states and the District of Columbia. Patterns in historical data are analyzed at the state level and aggregated to the regional and national level. The projections are based on a cohort survival method, which assumes that enrollments and graduates can be projected by measuring the survival or transition of birth cohorts into first grade and then from one grade level to the next. Projections include: the number of nonpublic graduates is expected to decrease 17% before the year 2000; in the West, the decreases in the early 1990s will be less severe and the recovery in the late 1990s will be more pronounced than in other regions; in the south/southcentral region, one-half the states will experience increases in high school graduates by year 2004, led by Florida with more than a 60% increase; all the northcentral states will experience decreases in the size of the graduating class prior to 1992, including drops of more than 12% in four states; and all the northeast states will experience substantial decreases in their graduating classes by the early 1990s. Information on the research methodology and examples on state historical data worksheets are provided. (SW)

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High School Graduates: Projections by State, 1986 to 2004

Western Interstate Commission for Higher Education
The College Board
Teachers Insurance and Annuity Association

The Western Interstate Commission for Higher Education (WICHE) is a nonprofit regional organization established by interstate compact in the 1950s. Members and affiliated states are Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, Utah, Washington, and Wyoming.

Among its activities, WICHE provides information to higher education and government officials as they address important education issues in their states and across the region and nation. The WICHE Information Clearinghouse serves as the primary focus for this information sharing and for the preparation of analytical reports on trends and issues affecting education.

The WICHE Information Clearinghouse maintains the database of historical enrollment and graduation data on which this report is based. Readers who are interested in receiving more detailed worksheets and projection tables for a state or region can order by writing: WICHE Publications, P.O. Drawer P, Boulder, Colorado 80301-9752. Data are available in a hard copy format or on LOTUS diskettes for IBM PC's and compatibles. Data for a single region are available for a cost of $18 (hard copy) and $30 (diskettes), these include separate tables on all of the states in that region. A complete set of data for all four regions is available for $65 (hard copy) and $120 (diskettes). Data for individual states are available at a cost of $3 (hard copy) and $5 (diskettes) per state. Please specify diskettes or hard copy when ordering and the state(s) or region(s) desired.

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Foreword

After many years of steady growth, the number of students graduating from high school entered a "roller coaster" pattern of declines and increases in the late 1970s. This uneven pattern in high school graduates will continue through the next decade, reflecting the aging and the echoes of the baby-boom generation. The changes will be more pronounced in some regions than others due to the mobility of the population, varying economic conditions, and growth in minority populations. Coping with the roller coaster in high school graduates will require reliable information and careful planning by secondary school administrators, college and university officials, the military services, employers, and others dealing with the young adult population.

This is the third edition of high school graduate projections published by the Western Interstate Commission for Higher Education (WICHE) to help meet these information and planning needs. This report represents WICHE's commitment to periodically update, refine, and expand the projections presented in earlier editions. The projections are based on the most current data available and extend to the year 2004. In response to needs expressed by users of earlier editions, projections are included for total public and non-public high school graduates for all 50 states and the District of Columbia.

Robin Etter Zuñiga, staff associate in WICHE's Information Clearinghouse, had primary responsibility for collecting and analyzing the data, generating the projections, and drafting the report. Cherie Pedersen, senior secretary, provided valuable assistance in entering historical data and preparing successive drafts. Charles Lenth, director of the Information Clearinghouse, provided support and guidance.

WICHE gratefully acknowledges the support of our co-publishers, The College Board and the Teachers Insurance and Annuity Association, and the financial assistance of the Lilly Endowment, Inc.

This report would not have been possible without the help of the many individuals in state vital statistics and education agencies who supplied the data, answered questions, and commented on the projections. WICHE is grateful to them for their continuing help and support.

Boulder, Colorado
March 1988

Phillip Sirotkin
Executive Director
Western Interstate Commission
for Higher Education

Introduction and Highlights

School officials, college and university planners, employers, and others serving American youth have been reminded repeatedly of the decline in the birth cohorts that began about 1960 and continued, unevenly, into the 1970s. These reminders recur in headlines warning of declining enrollments, and in the actual effects felt in schools, colleges and universities, and in the workforce. These dramatic changes in the size of birth cohorts have relatively predictable consequences. Decreases in the number of high school graduates began in the late 1970s, some 18 or 19 years following the decline in the number of births. Although other factors affect the size of graduating classes, changes in birth cohorts largely shape the national pattern.

What is true for the nation as a whole, however, is not uniformly true for regions and individual states. Birth patterns have varied significantly across the nation, while other factors such as interstate migration, immigration, and school progression patterns affect the size of high school graduating classes differently in regions and states. Both perspectives are important; inappropriate generalization of national trends to individual states or state trends to the nation as a whole could provide worse guidance than no information at all.

This report presents historical data and projections on a national level and for separate regions and individual states. Patterns in historical data have been analyzed at the state level and aggregated to the regional and national level. This edition includes projections for all 50 states and the District of Columbia based on data available as of late 1987. The projections are extended through the year 2004 and include estimates of non-public graduates for those states which do not collect those data.

Technically, the projections are based on a cohort survival method, a fairly standard and straightforward methodology for demographic projections. This method assumes that enrollments and graduates can be projected by measuring the "survival" or transition of birth cohorts into first grade and then from one grade level to the next. For public high school graduates, projections are based on extensive historical data provided by education agencies in each state and the District of Columbia. In addition, 38 states were able to provide historical enrollment data for non-public schools; 31 of these also provided data on the number of graduates from non-public schools. Non-public school enrollments and graduates are estimated for those states unable to supply the necessary historical data. These estimates, which comprise only about 2 percent of the combined national totals, are clearly identified as estimates in the data tables. A more complete description of these methods is provided in the methodology chapter.

The projections reflect historical patterns and trends. They are based upon assumptions about the relative stability of net migration, grade-to-grade student progression, retention patterns, and other factors affecting student transition through the school system to graduation. They serve best as indicators of the relative size of high school graduating classes at different points in time and in different regions and states. As yearly data become available, these projections can be checked against the actual number of future graduates to see if these assumptions hold true for a particular state or region.

Highlights

Nationally, the historical peak in the number of high school graduates occurred in the late 1970s, followed by steady decreases in the early 1980s. By 1986, the beginning point for national totals in this report, high school graduates were again increasing. This modest upturn will continue through 1988, but will by no means recover the numerical losses of the 1980s. After 1988 the number of high school graduates will decline sharply and remain at a low level until the mid-1990s. Following this valley, the number of graduates nationally will increase quite steadily into the 21st century, although there are marked differences in this pattern across regions and states.

Within this overall pattern, several distinct trends and turning points can be identified for the nation, for regions, and for individual states. More specifically:

Combined Totals. For the nation, a 4 percent increase in combined public and non-public graduates between 1986 and 1988 will reverse sharply to a nearly 12 percent decrease between 1988 and 1992 (see Figure 1 and Table 2). After remaining at this low level for three years, total (public and non-public) graduates will increase, recovering to the 1988 level by 1998. The number of graduates in 2004 is projected to exceed the 1986 level by nearly 10 percent.

Public Graduates. Public high school graduates statistically dominate the combined figures, comprising 90 percent of the total in 1986. As a result, the down-and-up trends in public graduates are similar to those described above. The decrease in public high school graduates between 1986 and 1992 will be about 7 percent, with over a 20 percent decrease from the base year of 1979 (see Figure 2 and Table 2). The recovery in the late 1990s will be almost as dramatic as these earlier decreases, with the projected public school total in 2004 nearly 13 percent higher than 1986 graduates and only 4 percent less than 1979.

Non-public Graduates. The number of non-public graduates is expected to decrease 17 percent before the year 2000 (see Figure 3 and Table 2). This non-public projection, however, has both a greater margin of error, reflecting a more limited historical data base, and is more subject to changes from external factors in the future.

West. In the West as a whole, the decreases in the early 1990s will be less severe and the recovery in the late 1990s will be more pronounced than in other regions. By 2004, the number of high school graduates in the West is projected to exceed those in the Northcentral and Northeast regions and be 47 percent larger than 1986. The West is, however, also a region of stark variations. The high school graduating class of 2004 in Alaska and Nevada is projected to be two times the size of the 1986 class, and in Arizona an increase of nearly 80 percent is projected. In contrast, two of the four states experiencing the largest declines between 1986 and 2004 are also in the West--Idaho and Wyoming.

South/Southcentral. In the South/Southcentral region, one-half the states will experience increases in high school graduates by the year 2004, led by Florida with more than a 60 percent increase. Georgia, Oklahoma, Texas, and Virginia will also experience significant gains, while South Carolina and Tennessee are expected to experience smaller gains. The remaining seven states are expected to graduate fewer students in 2004 than 1986, led by more than a 31 percent drop in West Virginia. The region as a whole will have a graduating class in 2004 that is 16 percent larger than the 1986 class.

Northcentral. All the Northcentral states will experience decreases in the size of the graduating class prior to 1992, including drops of more than 12 percent in four states. By 2004, only Kansas, Minnesota, and Missouri will have a graduating class that matches or exceeds the 1986 class size, and all of these increases are quite small. The Northcentral region as a whole will have 8 percent fewer graduates in 2004 than in 1986.

Northeast. All the states of the Northeast will experience substantial decreases in their graduating classes by the early 1990s. By 2004, only Maryland, New Hampshire, and Vermont will increase their number of graduates. Overall, the number of graduates in the region in 2004 will be nearly 5 percent below the 1986 level.

A more detailed examination of these national trends and state patterns is provided in the next chapter.

Projections Of High School Graduates

In order to provide a comprehensive picture of the size of future high school graduating classes, the projections in this report are built upon an historical database augmented by estimates of non-public school graduates where data were not available. Considerable progress has been achieved in making the database and the projections more complete than in previous editions of this report. This increases the comparability of data and projections across states, although it limits the comparability with previous WICHE projections and other data sources.

More specifically, the public high school graduate projections are based on historical enrollment and high school graduate data through 1986, collected from all 50 states and the District of Columbia. Non-public enrollments by grade level were supplied by 38 states, a significant improvement over the 1984 edition when only 22 states provided adequate non-public data. As a result, projections in this report are based upon a database of grade-specific enrollments and graduates that includes approximately 98 percent of the graduating class of 1986.

Non-public graduates for the 12 states and the District of Columbia unable to provide these data have been estimated by analyzing total enrollments and, where available, actual graduates (see Table 1). Although there may be a significant margin of error in individual state estimates, when included among aggregate national and regional totals the significance of the estimating error is reduced. (A discussion of the data sources and method used to derive these estimates can be found in the methodology chapter.)

Table 1
States for which Non-public Enrollments by Grade Level Were Estimated

Alabama	North Carolina
Colorado	South Carolina
District of Columbia	Tennessee
Georgia	Texas
Mississippi	Virginia
Montana	Wyoming
New Jersey	

The inclusion of additional historical data and non-public estimates has important implications for the interpretation and use of these projections. First, these projections are not strictly comparable to those previously published by WICHE. The degree of comparability is not easy to determine, however, since the 1984 edition reported only combined totals for states with both public and non-public projections. Since 1984, several states have either begun collecting non-public data (e.g., Rhode Island and Vermont), or discontinued attempts to collect this data (e.g., South Carolina). Comparisons with previous projections can only be made for those states which have

consistently reported non-public data. The user should be aware of these problems when attempting to make such comparisons.

Second, 1986 is the first year for which a comprehensive, combined total of public and non-public graduates is available. Complete historical data for public schools are presented from 1978-79 forward. However, due to the limited availability of non-public historical data, deriving an estimate of the total number of non-public graduates was not possible prior to 1986. Therefore, all graphic representations use 1986 as the base year.

Third, all tables list projections of public and non-public schools separately. This disaggregation provides users more flexibility and allows less reliable components of the database to be identified. For example, many states are unable to collect 100 percent of non-public enrollments and graduates. Consequently, non-public enrollment and graduate data are generally less reliable than public school data. Access to separate public and non-public figures also permits analyses of movements between public and non-public schools, and changes in the relative number of public and non-public graduates. Users of this report may choose to combine public and non-public graduates for their analyses, or treat them separately.

In addition, regional and national tables include total elementary and secondary enrollments for both public and non-public schools. Enrollment projections have been included to provide the user with additional information on the size of the school-age population. Births occurring six years prior to first grade enrollments are the basis for these projections. Since 1986 is the last year for which birth data are available, enrollment projections are presented only through the 1992-93 academic year when this birth cohort will enter first grade.

The combined data for the states and the District of Columbia reveal important national trends. These national trends, however, mask the significant variations that exist between regions and among the states within each region. The following sections proceed from the general to the particular, examining national trends first, then differences across regions, and finally projections for each state.

National Trends

As illustrated by Figure 1, a slight increase (4.4 percent) is expected in the total number of public and non-public high school graduates between 1986 and 1988, followed closely by a decline of 11.8 percent. Between 1995 and 2004, the number of graduates will increase gradually, with the graduates of 2004 expected to exceed, by 5.2 percent, the 1988 level. As Figure 2 suggests, trends for public high school graduates parallel combined trends.

Figure 1
United States
High School Graduates, 1986-2004 (projected)

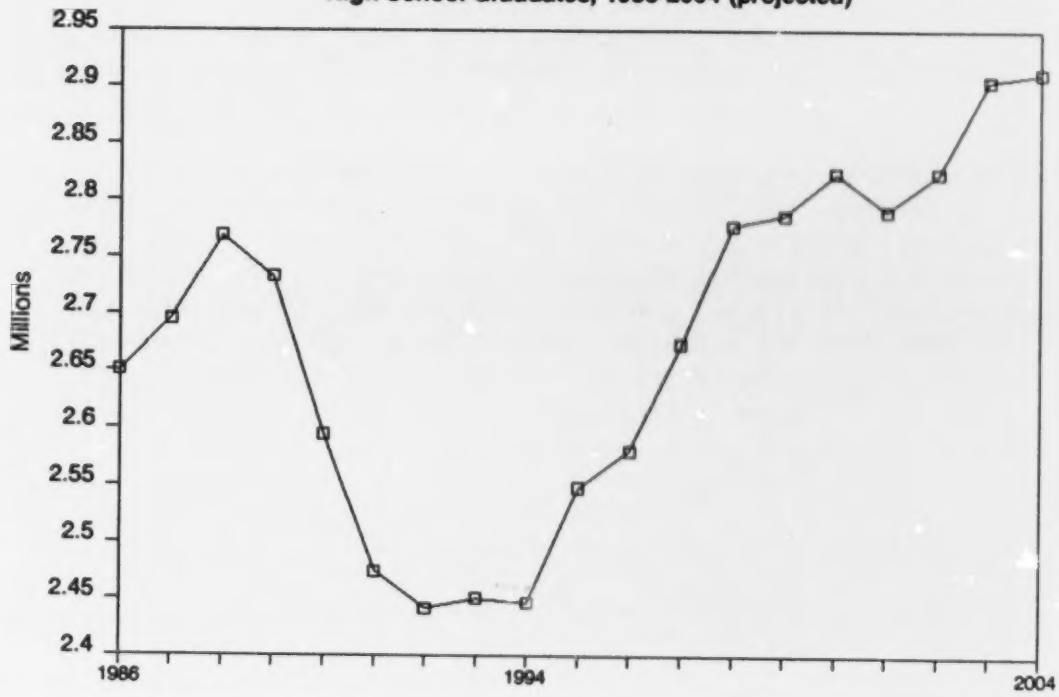


Figure 2
United States
Public High School Graduates, 1986-2004 (projected)

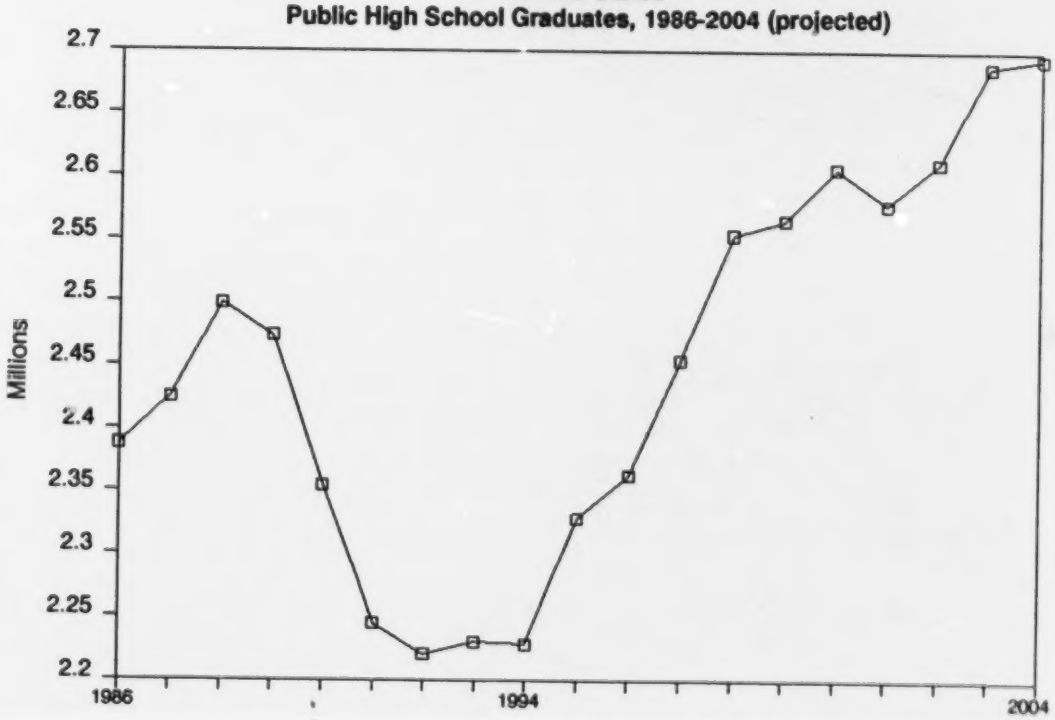


Table 2 shows U.S. totals by year, including data for public high school graduates from 1979 forward. The projections indicate that the number of public high school graduates in 2004 will fall only 4 percent below 1979 levels. Since public graduates comprise approximately 90 percent of total graduates in 1986 and because trends in public and combined graduates are similar, this suggests that total high school graduates in 2004 will also approach 1979 levels.

Non-public graduate projections do not follow this pattern. They reflect a steady decline from 1987 through 1994, then level off (see Figure 3). By 2004, non-public graduates are projected to fall 17 percent below 1986 levels. Consequently, non-public high school graduates, which comprised 9.9 percent of the total number of high school graduates in 1986, are expected to account for only 7.5 percent of the total in 2004. In reviewing these trends, however, it should be kept in mind that non-public projections include estimates for 12 states and the District of Columbia, and are generally more subject to inconsistencies in reporting and changes from external factors.

Figure 3
United States
Non-Public High School Graduates, 1986-2004 (projected)

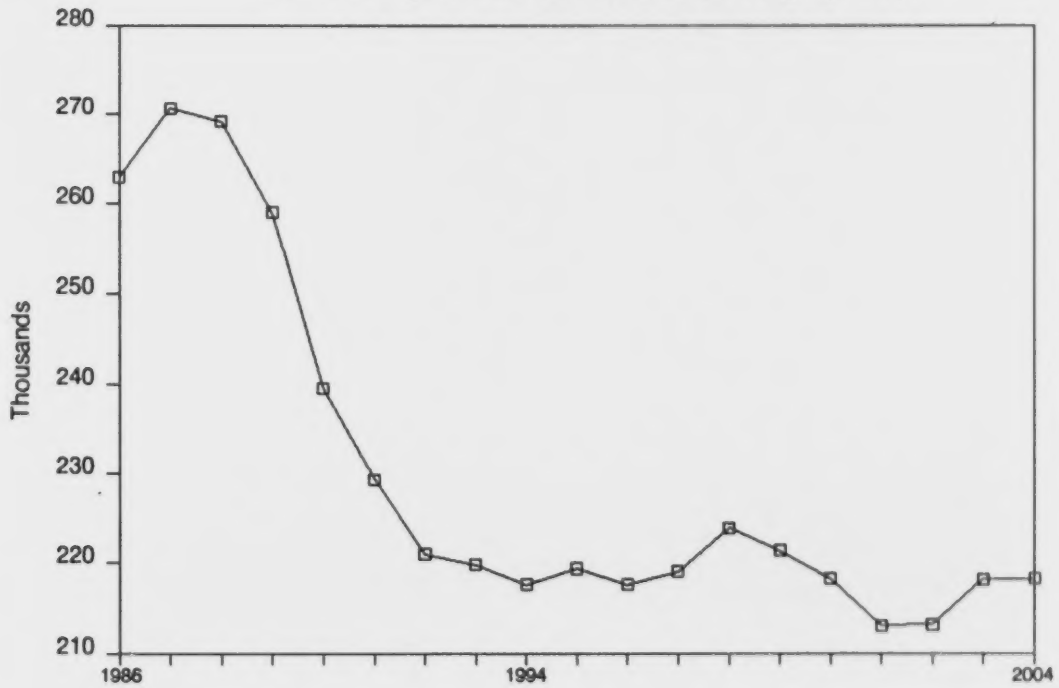


Table 2
Total Enrollments and High School Graduates
United States

	Total Enrollments		High School Graduates	
	1978-79 through 1986-87 (actual) 1987-88 through 1992-93 (projected)		1978-79 through 1985-86 (actual) 1986-87 through 2003-04 (projected)	
	Public	Non-public*	Public**	Non-public*
1978-79	39,198,599		2,806,950	
1979-80	38,219,313		2,755,512	
1980-81	37,411,402		2,730,193	
1981-82	36,654,470		2,714,081	
1982-83	35,948,796		2,608,992	
1983-84	35,673,173		2,496,813	
1984-85	35,478,251		2,422,714	
1985-86	35,516,920	4,288,518	2,387,524	262,918
1986-87	35,720,492	4,193,282	2,424,455	270,647
1987-88	35,843,868	4,134,636	2,499,057	269,132
1988-89	35,963,739	4,068,828	2,473,566	259,018
1989-90	36,103,832	4,001,052	2,354,896	239,542
1990-91	36,431,421	3,958,483	2,244,737	229,295
1991-92	36,992,266	3,938,468	2,220,177	220,877
1992-93	37,580,654	3,930,769	2,230,133	219,772
1993-94			2,228,327	217,502
1994-95			2,328,809	219,330
1995-96			2,363,051	217,514
1996-97			2,454,204	218,976
1997-98			2,553,292	223,857
1998-99			2,564,948	221,280
1999-00			2,605,752	218,176
2000-01			2,577,355	213,018
2001-02			2,610,708	213,164
2002-03			2,687,085	218,141
2003-04			2,693,925	218,169

*Historical data are incomplete prior to 1985-86. Annual totals contain estimates of non-public enrollments and graduates for 12 states and the District of Columbia. See text for explanation.

**1983-84 contains an estimate of public high school graduates for Michigan, which could not provide data for that year. 1985-86 contains an estimate of public high school graduates for the state of Washington, which could not provide data for that year.

Note: Due to the rounding of individual projections, the sum of the state and/or regional projections may vary slightly from the U.S. totals.

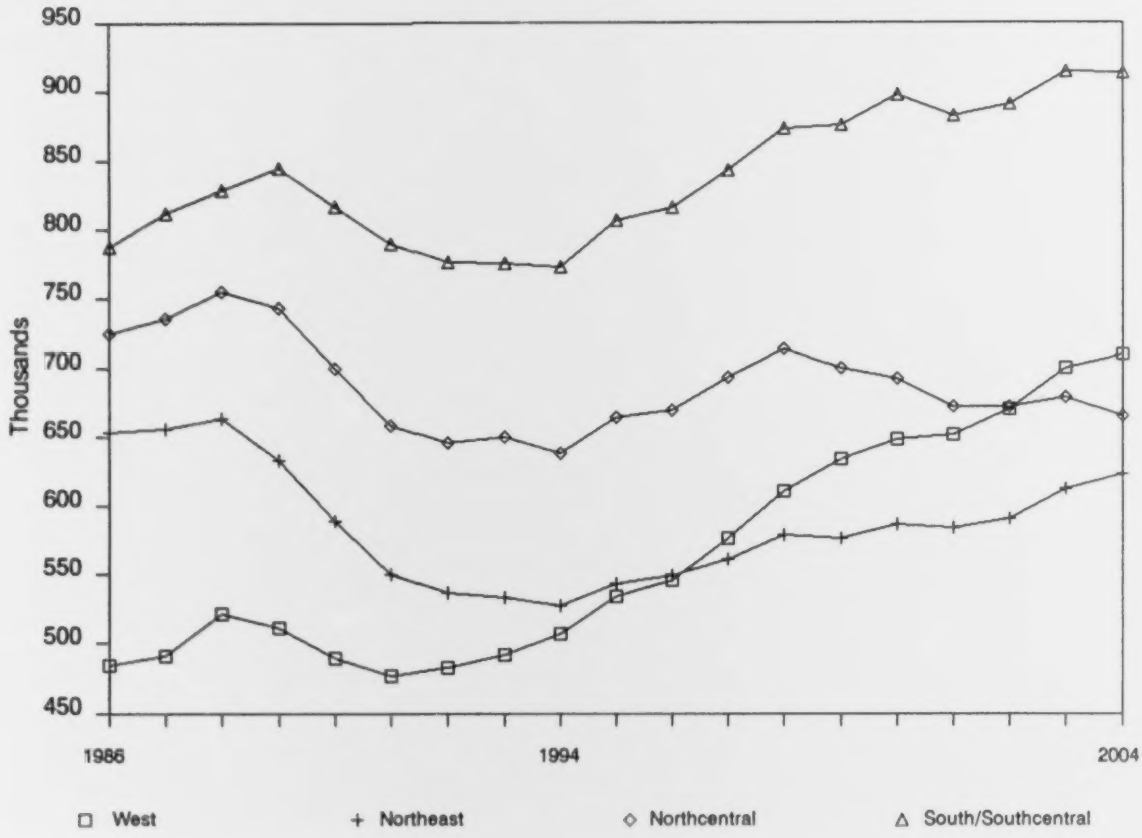
Regional and State Trends

In order to examine differences across states, the nation has been divided into four regions (see Figure 4).

Examining changes across regions reveals that all four will experience a slump in the number of students graduating from high school sometime between 1990 and 1994. However, the low point will not be reached at the same time in each region. The West experiences its low in 1991. The other three regions are expected to graduate their smallest number of high school students in 1994, at the end of the slump.

Figure 4
States Included in Each Region

Figure 5
High School Graduates, 1986-2004 (projected)
By Region



As Figure 5 indicates, each region reflects the national upturn in high school graduates after the mid-1990s differently. The western and southern states contribute most to this increase. In 1986, the West ranked last among the regions in the number of students graduating from high school. The total number of public and non-public graduates in the West will increase 46.6 percent between 1986 and 2004, and overtake those from the Northcentral and Northeast (see Figure 5 and Table 3B). The southern states will remain the largest region, but their number of high school graduates will increase at a slower rate than in the West. The total number of high school graduates in the South/Southcentral region is projected to increase by 16 percent between 1986 and 2004. In contrast, the Northeast and Northcentral regions lose graduates between 1986 and 2004, 4.7 and 8.3 percent respectively.

Table 3A

Total Enrollments by Region

1978-79 through 1986-87 (actual), 1987-88 through 1992-93 (projected)

	West		South/Southcentral		Northcentral		Northeast	
	Public	Non-public*	Public	Non-public*	Public	Non-public*	Public	Non-public*
1978-79	7,289,829		12,567,810		10,337,129		9,003,831	
1979-80	7,189,755		12,433,091		9,980,346		8,616,121	
1980-81	7,135,773		12,322,815		9,656,709		8,296,105	
1981-82	7,144,350		12,193,447		9,348,387		7,968,286	
1982-83	7,114,426		12,076,753		9,076,766		7,680,851	
1983-84	7,153,515		12,048,786		8,980,424		7,490,448	
1984-85	7,247,757		12,044,685		8,854,866		7,330,943	
1985-86	7,372,905	696,382	12,104,510	982,893	8,800,889	1,210,341	7,238,616	1,398,902
1986-87	7,531,572	683,298	12,204,442	969,616	8,807,257	1,179,018	7,177,221	1,361,350
1987-88	**7,702,760**	**672,057**	**12,279,646**	**964,489**	**8,766,177**	**1,161,272**	**7,095,285**	**1,336,818**
1988-89	**7,866,508**	**652,994**	**12,361,408**	**966,469**	**8,708,100**	**1,137,765**	**7,027,724**	**1,311,600**
1989-90	**8,049,395**	**634,659**	**12,415,178**	**965,954**	**8,642,220**	**1,113,206**	**6,997,038**	**1,287,233**
1990-91	**8,282,306**	**622,022**	**12,510,597**	**969,729**	**8,620,504**	**1,095,019**	**7,018,015**	**1,271,713**
1991-92	**8,565,637**	**616,154**	**12,671,630**	**976,482**	**8,651,705**	**1,080,309**	**7,103,295**	**1,265,523**
1992-93	**8,853,240**	**612,629**	**12,835,724**	**987,678**	**8,679,602**	**1,065,975**	**7,212,089**	**1,264,487**
1993-94								
1994-95								
1995-96								
1996-97								
1997-98								
1998-99								
1999-00								
2000-01								
2001-02								
2002-03								
2003-04								

*Historical data are incomplete prior to 1985-86. Annual totals contain estimates of non-public enrollments and graduates for 12 states and the District of Columbia. See text for explanation.

Note: Due to the rounding of individual projections, the sum of the state projections may vary slightly from the regional totals.

Table 3B

High School Graduates by Region

1978-79 through 1986-87 (actual), 1986-87 through 2003-04 (projected)

	West		South/Southcentral		Northcentral		Northeast	
	Public**	Non-public*	Public	Non-public*	Public**	Non-public*	Public	Non-public*
1978-79	494,674		798,170		821,404		692,702	
1979-80	490,001		798,004		794,505		673,002	
1980-81	480,946		802,859		782,727		663,661	
1981-82	476,667		809,228		773,216		654,970	
1982-83	464,668		779,037		738,492		626,795	
1983-84	451,497		750,263		698,801		596,252	
1984-85	444,777		731,708		676,128		570,101	
1985-86	447,779	36,308	733,391	54,234	655,275	69,879	551,079	102,497
1986-87	453,811	37,577	752,420	59,316	665,860	70,210	552,363	103,544
1987-88	483,643	37,553	771,630	56,695	683,816	71,133	559,967	103,751
1988-89	476,731	34,659	785,902	58,508	676,717	66,648	534,216	99,203
1989-90	456,836	32,282	760,230	56,416	639,767	59,929	498,063	90,915
1990-91	446,102	30,218	733,354	56,367	601,008	57,293	464,272	85,418
1991-92	452,933	29,424	724,339	52,094	590,323	55,760	452,583	83,598
1992-93	462,778	29,005	723,781	51,638	593,200	56,465	450,374	82,664
1993-94	478,649	28,404	722,395	50,991	583,211	55,303	444,072	82,803
1994-95	505,886	28,008	755,362	51,542	607,502	56,754	460,060	83,026
1995-96	518,156	27,766	764,223	51,508	613,698	55,923	466,974	82,317
1996-97	548,579	27,791	791,969	50,877	636,096	56,971	477,560	83,338
1997-98	582,363	27,967	819,162	54,490	657,104	57,005	494,663	84,395
1998-99	606,309	27,643	820,589	55,632	645,709	54,399	492,341	83,605
1999-00	622,204	25,990	840,155	57,233	640,395	52,002	502,998	82,950
2000-01	626,335	25,644	825,993	56,844	621,903	49,994	503,125	80,536
2001-02	644,199	25,895	833,029	57,656	623,292	49,020	510,189	80,594
2002-03	673,166	26,681	855,131	59,237	629,536	49,200	529,252	83,022
2003-04	683,108	26,572	854,828	59,195	617,706	47,571	538,283	84,831

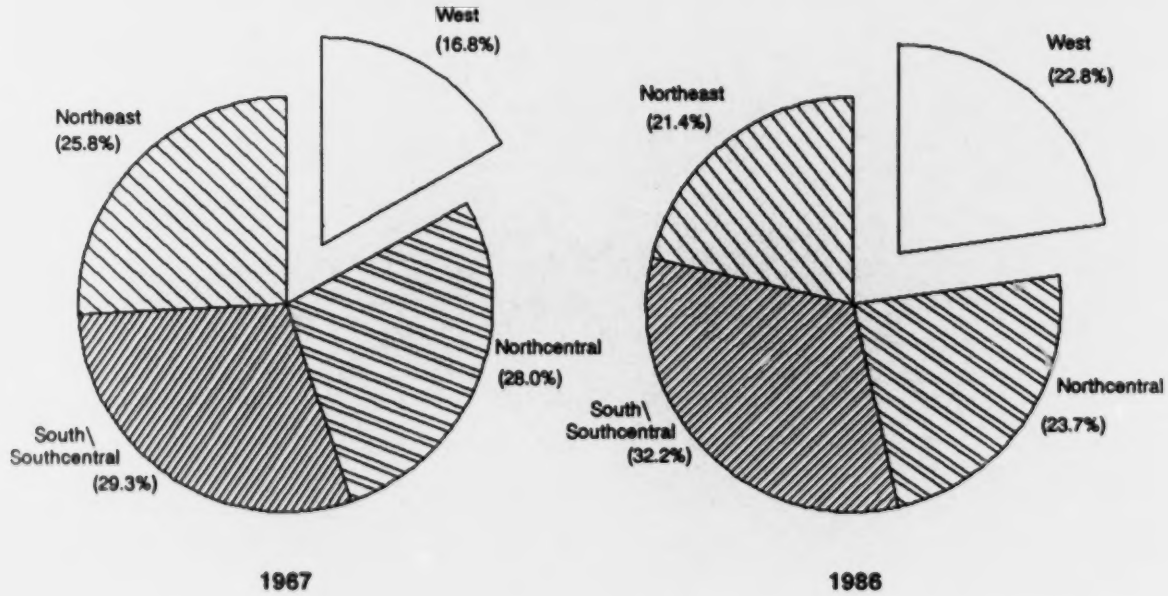
*Historical data are incomplete prior to 1985-86. Annual totals contain estimates of non-public enrollments and graduates for 12 states and the District of Columbia. See text for explanation.

**West: contains an estimate of public high school graduates for the state of Washington, which could not provide data for 1985-86. Northcentral: contains an estimate of public high school graduates for Michigan, which could not provide data for 1983-84.

Note: Due to the rounding of individual projections, the sum of the state projections may vary slightly from the regional totals.

Variations in the birth rate are the primary factor contributing to these interregional patterns. As Figure 6 indicates, between 1967 and 1986 the share of U.S. births accounted for by the West and South/Southcentral regions has increased significantly, from approximately 46 percent to 55 percent of the national total. These regional shifts in the number of births account for much of the variation in high school graduates expected between 1986 and 2004.

Figure 6
Percentage of Births by Region
1967 and 1986

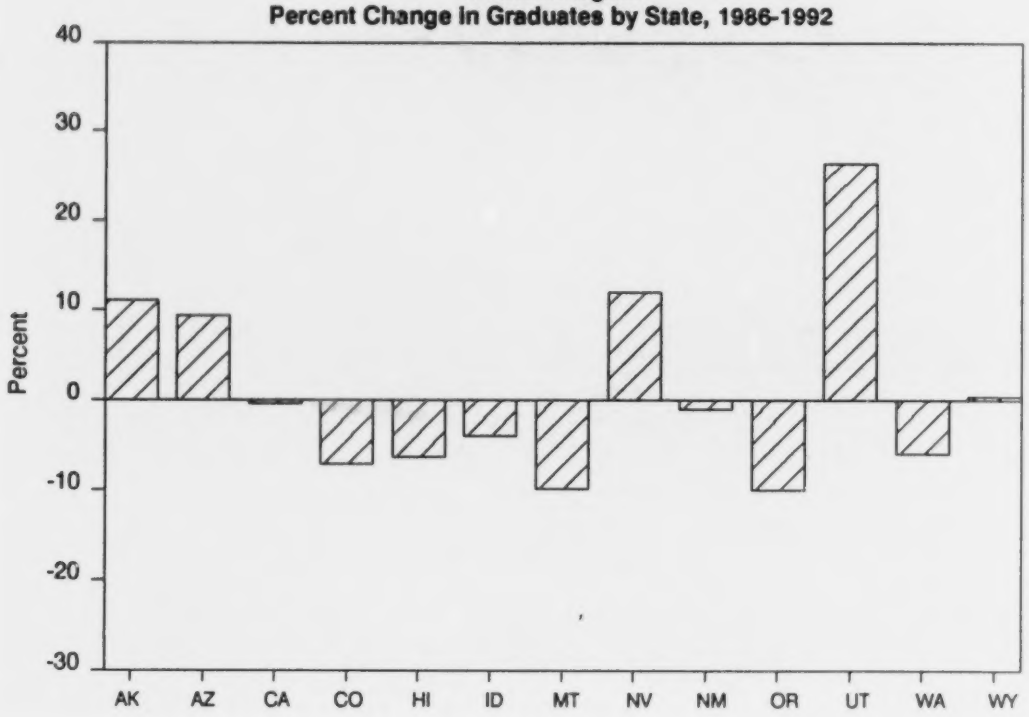


Regional trends, of course, are a composite of individual state trends. No two states within a region will experience these trends in exactly the same way. For example, not all of the states in the West and South/Southcentral regions will increase their share of high school graduates by 2004. Similarly, despite the loss of graduates by the region as a whole, several states in the Northcentral and Northeast regions are expected to graduate more students in 2004 than they did in 1986.

West

The number of graduates in most of the western states will increase by more than 5 percent between 1986 and 1989, then decline significantly before 1994. There are a few notable exceptions to this pattern. For example, New Mexico's graduates remain fairly stable between 1986 and 1991, with the number of graduates expected to increase only 1.6 percent between 1986 and 1990, and decrease by only 2.7 percent between 1990 and 1991, resulting in a 1 percent decrease by 1992. In contrast, Utah maintains a steady rise in the number of students completing high school between 1986 and 2000, including an increase of 26.4 percent between 1986 and 1992. As Figure 7 illustrates, Alaska, Arizona, and Nevada are also expected to experience significant increases during this period.

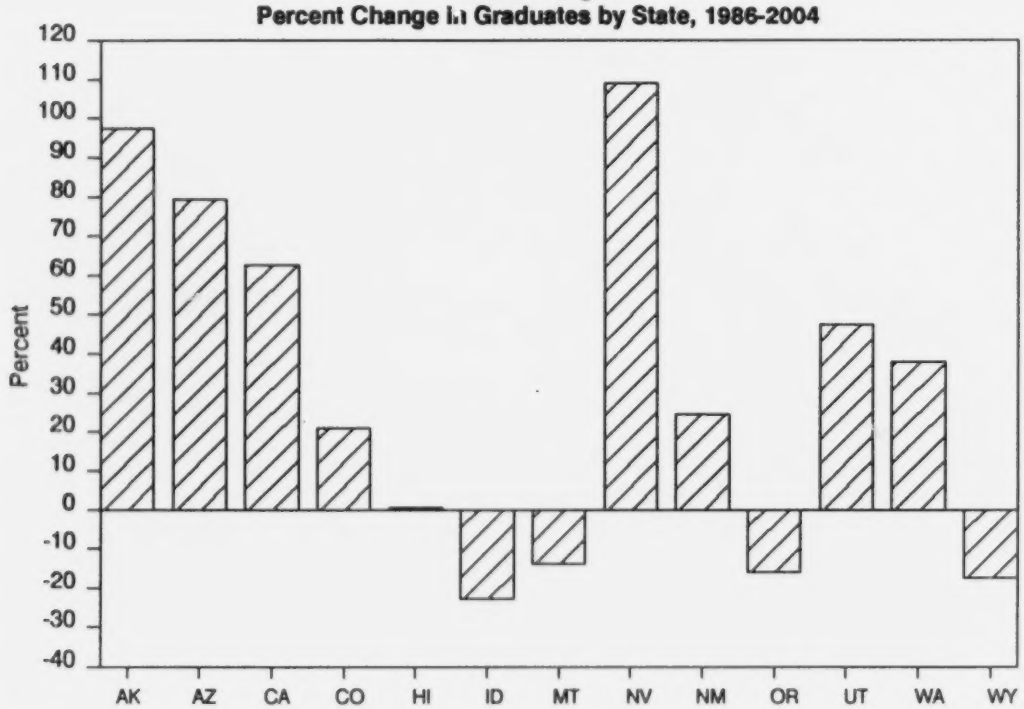
Figure 7
Western Region
Percent Change in Graduates by State, 1986-1992



Over the long term, the West will remain a region of sharp contrasts. While most states in the region are expected to experience increases between 1986 and 2004, two western states are among the top four losers nationally (see Figure 8). The class of 2004 in Alaska and Nevada is projected to be two times the size of the class of 1986. Arizona's graduates are expected to increase by 79.2 percent and California's by 62.7 percent during this period, while Utah's increase by 47.4 percent. In New Mexico the number of students graduating from high school increases steadily after 1991. By 2004 its graduates surpass the 1986

level by 24.5 percent. Substantial increases are also projected for Colorado and Washington. In contrast, four states (Idaho, Montana, Oregon, and Wyoming) are projected to have fewer graduates in 2004 than they had in 1986. Idaho is expected to experience the third largest drop in the nation during this period, 22.6 percent, and Wyoming is the fourth largest loser with a drop of 17.3 percent.

Figure 8
Western Region
Percent Change in Graduates by State, 1986-2004



South/Southcentral

Trends in the South/Southcentral region are similar to those in the West. Most southern states will experience a slight increase in the number of students graduating between 1986 and 1989, lose graduates through the 1990 to 1994 period, and ultimately regain lost ground before the year 2000. Not all states fit this pattern. Alabama reaches its peak in 1987, earlier than the other states. Florida, on the other hand, is expected to experience a steady increase in graduates through 1990.

As Figure 9 illustrates, most southern states are projected to lose graduates between 1986 and 1992. Only Florida and Texas are expected to be significantly above 1986 levels in 1992, 4.5 and 6.4 percent respectively. Georgia and Tennessee will be less than 1 percent above 1986 levels in 1992, while the remaining states are expected to lose graduates.

Figure 9
South/Southcentral Region
Percent Change in Graduates by State, 1986-1992

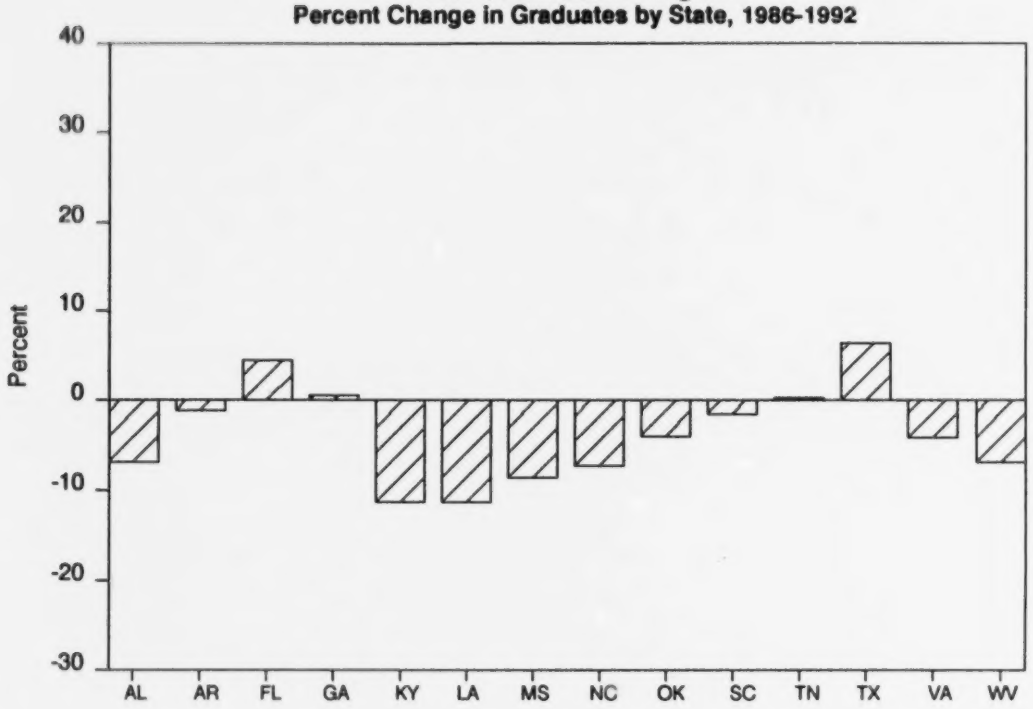
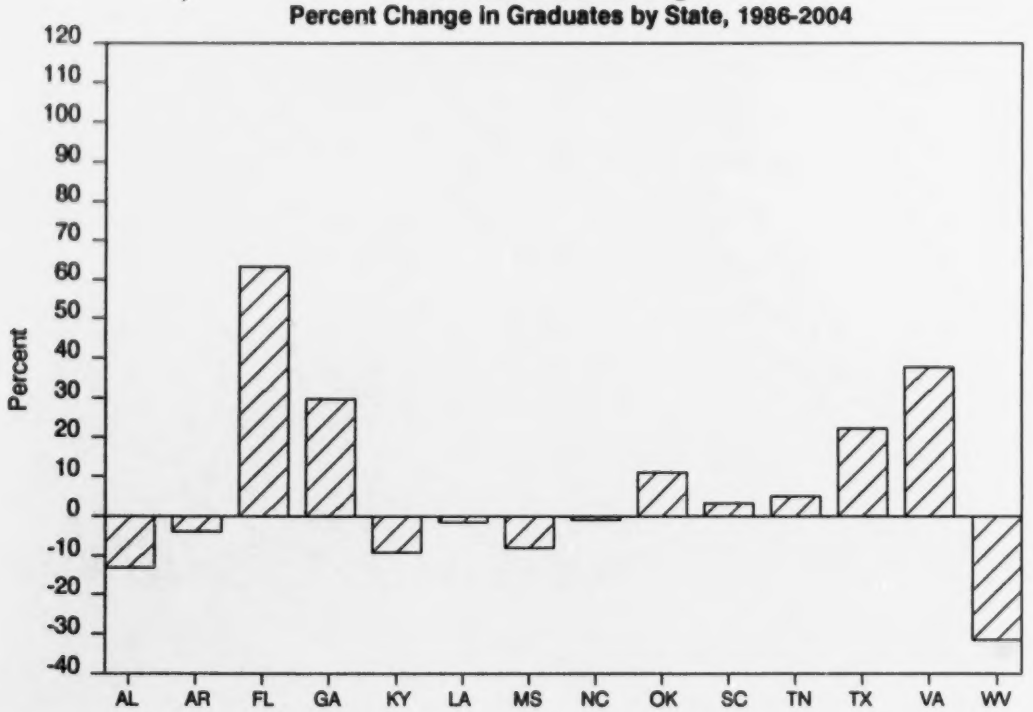


Figure 10
South/Southcentral Region
Percent Change in Graduates by State, 1986-2004

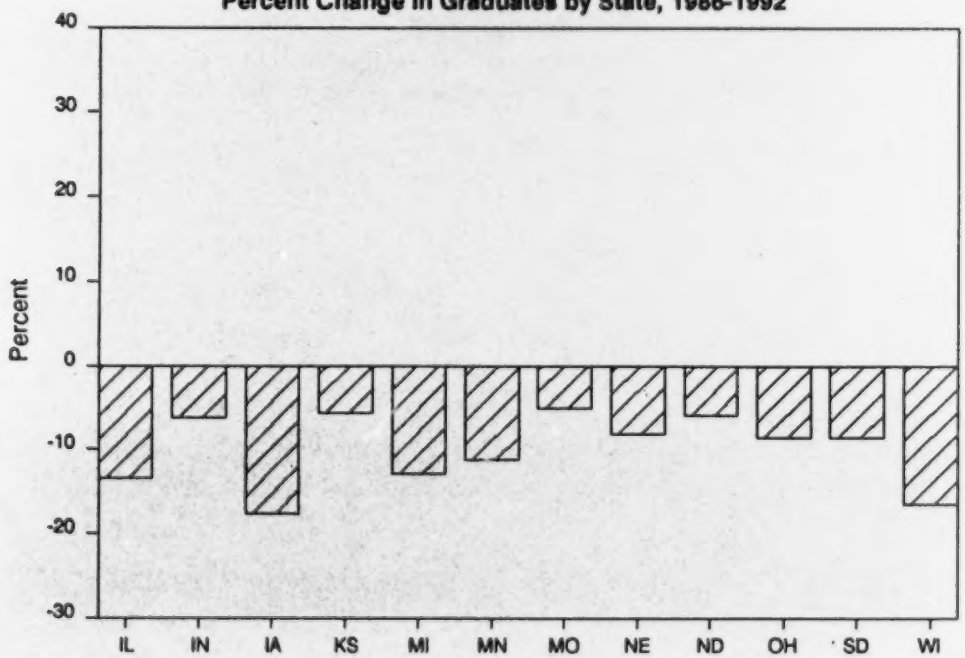


Although the increase is not as large as in the West, the South/Southcentral region is expected to graduate more students in 2004 than in 1986. The number of students graduating in Florida is expected to increase 63 percent between 1986 and 2004. Georgia, Oklahoma, Texas, and Virginia also are projected to experience significant increases, while South Carolina and Tennessee experience smaller increases during this period (see Figure 10). In contrast, seven southern states (Alabama, Arkansas, Kentucky, Louisiana, Mississippi, North Carolina, and West Virginia) will graduate fewer students in 2004. West Virginia faces a steep 34.6 percent drop from 1989 through 2004. This represents the largest loss nationally, leaving West Virginia 31.6 percent below its 1986 level.

Northcentral

In contrast to the West and South/Southcentral regions, trends in the Northcentral region indicate overall decreases in the number of graduates. Most of the Northcentral states will experience increases sometime between 1986 and 1989, then decline and remain low through 1994. All of the Northcentral states regain graduates between 1994 and the year 2000, after which the number of graduates stabilizes or begins to decrease again.

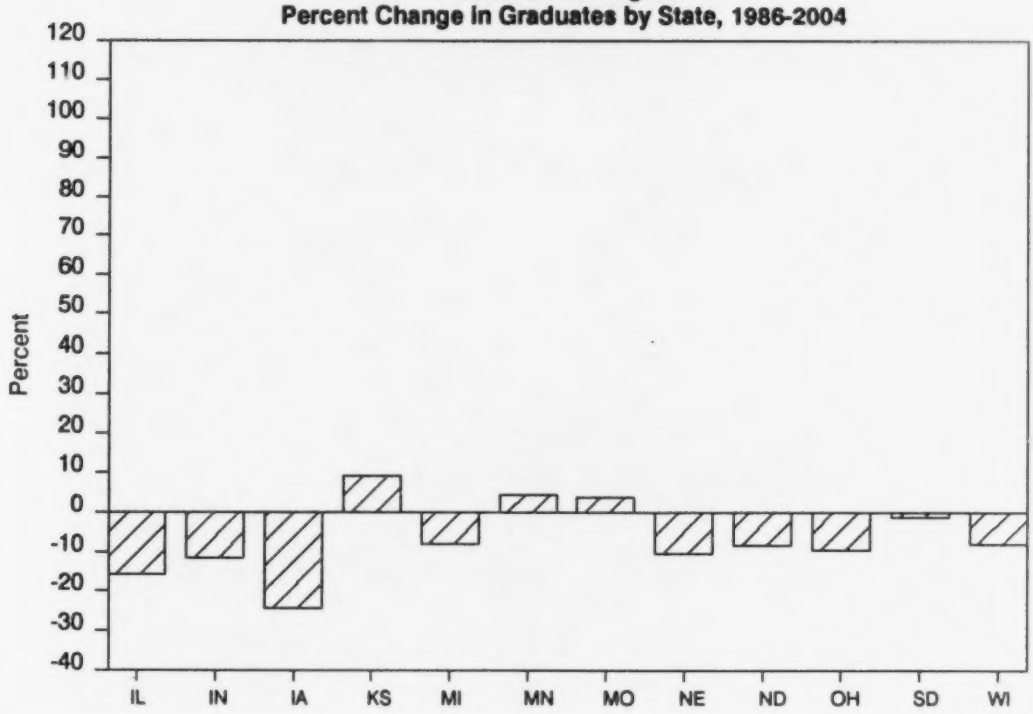
Figure 11
Northcentral Region
Percent Change in Graduates by State, 1986-1992



The largest increases between 1986 and the 1988 to 1989 period are expected in North Dakota (8.3 percent), Missouri (7 percent), and Indiana (7.5 percent). Only Wisconsin fails to show an increase in graduates before 1989. After 1989, all of the states experience significant declines resulting in loses of 5 percent or more between 1986 and 1992 (see Figure 11). Iowa and Wisconsin experience the largest declines in this period, 17.6 percent and 16.4 percent respectively.

Many northcentral states recover significantly before the year 2000. South Dakota, Minnesota, and Kansas each increases the size of its graduating class by more than 20 percent before 1999. Even so, as Figure 12 indicates, only a few states approach the number of graduates they had in 1986. Only Kansas, Minnesota, and Missouri will exceed their 1986 levels by 2004, and then by margins of less than 10 percent. Iowa and Illinois are expected to experience the largest decreases in the region between 1986 and 2004, 24.2 and 15.7 percent respectively. Iowa's loss is the second largest in the nation during this period.

Figure 12
Northcentral Region
Percent Change in Graduates by State, 1986-2004



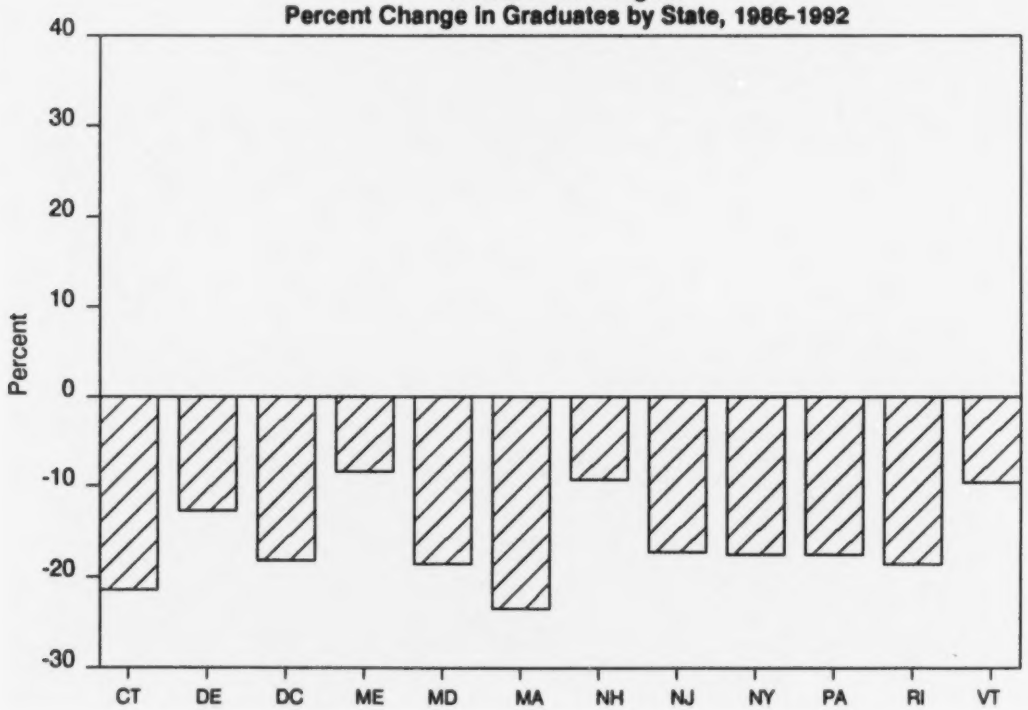
Many of the states in the northcentral region experience erratic changes. For example, South Dakota's class of 1998 is projected to be 23.8 percent larger than its class of 1992. However, between 1998 and 2004 it is expected to experience a 12.8 percent decrease in graduates. Although South Dakota exceeds 1988 levels in 1998, by 2004 the number of graduates is 1.3 percent below its 1986 level.

Northeast

For most northeastern states the gain in graduates during the 1986 to 1989 period will be small (8.4 percent or less). Massachusetts, Pennsylvania, and Rhode Island are the only states which are not expected to experience a noticeable increase in graduates during this period. Graduating classes in Pennsylvania and Rhode Island are expected to remain fairly stable from 1986 to 1988, then drop steadily through the mid-1990s. Massachusetts experiences a steady drop in its number of high school graduates from 1986 to 1994.

All of the northeastern states are projected to experience declines of 8 percent or more between 1986 and 1992 (see Figure 13). Massachusetts and Connecticut are expected to have the largest drops in the nation during this period, 23.4 and 21.4 percent respectively. The District of Columbia and Rhode Island experience loses of 18 percent or more between 1986 and 1992.

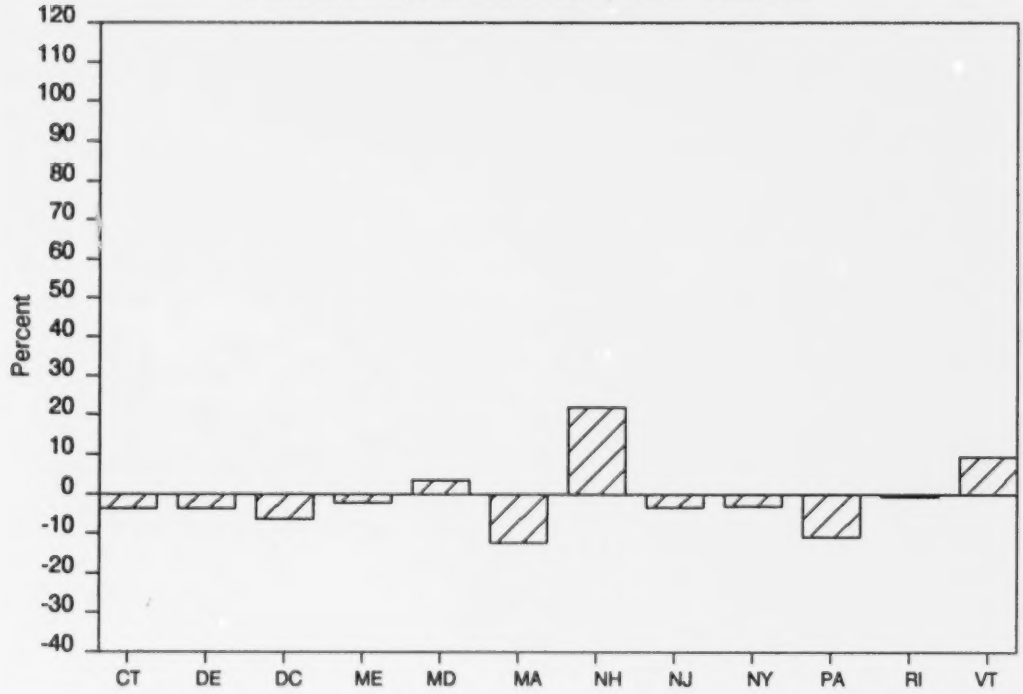
Figure 13
Northeastern Region
Percent Change in Graduates by State, 1986-1992



As a region, the northeastern states are expected to continue to lose graduates through 2004. In 2004 most states in the region will remain below 1986 levels (see Figure 14). Only in Maryland, New Hampshire, and Vermont is the graduating class of 2004 expected to exceed the size of the 1986 graduating class. New Hampshire is expected to increase its graduates 22 percent between

1986 and 2004, while Vermont is projected to experience a 9.4 percent increase. Connecticut, Maryland and the District of Columbia each regain 25 percent or more of their losses between 1994 and 2004. In 2004 Maryland exceeds its 1986 level by 3.5 percent, while Connecticut and the District of Columbia remain slightly below 1986 levels.

Figure 14
Northeastern Region
Percent Change in Graduates by State, 1986-2004



State Projections

Two maps of the United States highlighting changes in the number of high school graduates by state follow. Figure 15 graphically represents the changes that are expected between 1986 and 1992. During this period most of the states are expected to experience significant decreases in their number of graduates. Only six states are expected to experience significant increases. Figure 16 displays the changes expected between 1986 and 2004 by state. Most of those experiencing significant increases during this period are western or southwestern states, while most of the northcentral and northeastern states continue to lose graduates.

Complete historical data and projections by year for all 50 states and the District of Columbia are contained in Table 4. Public and non-public graduates are

reported separately for each state, beginning with historical data for 1978-79 where available. Historical data on non-public graduates were not available for seven states that submitted non-public historical enrollments. Projections of non-public graduates for these states were derived from projected non-public 12th grade enrollments. High school graduates for 1985-86 were estimated in the same manner. For 12 states and the District of Columbia neither non-public historical enrollments or high school graduates were available. Non-public graduates from 1985-86 through 2003-04 for these states are estimates. (A discussion of the method used to derive these estimates is included in the next chapter.)

Figure 15
Percent Change by State, 1986-1992
Public and Non-Public High School Graduates

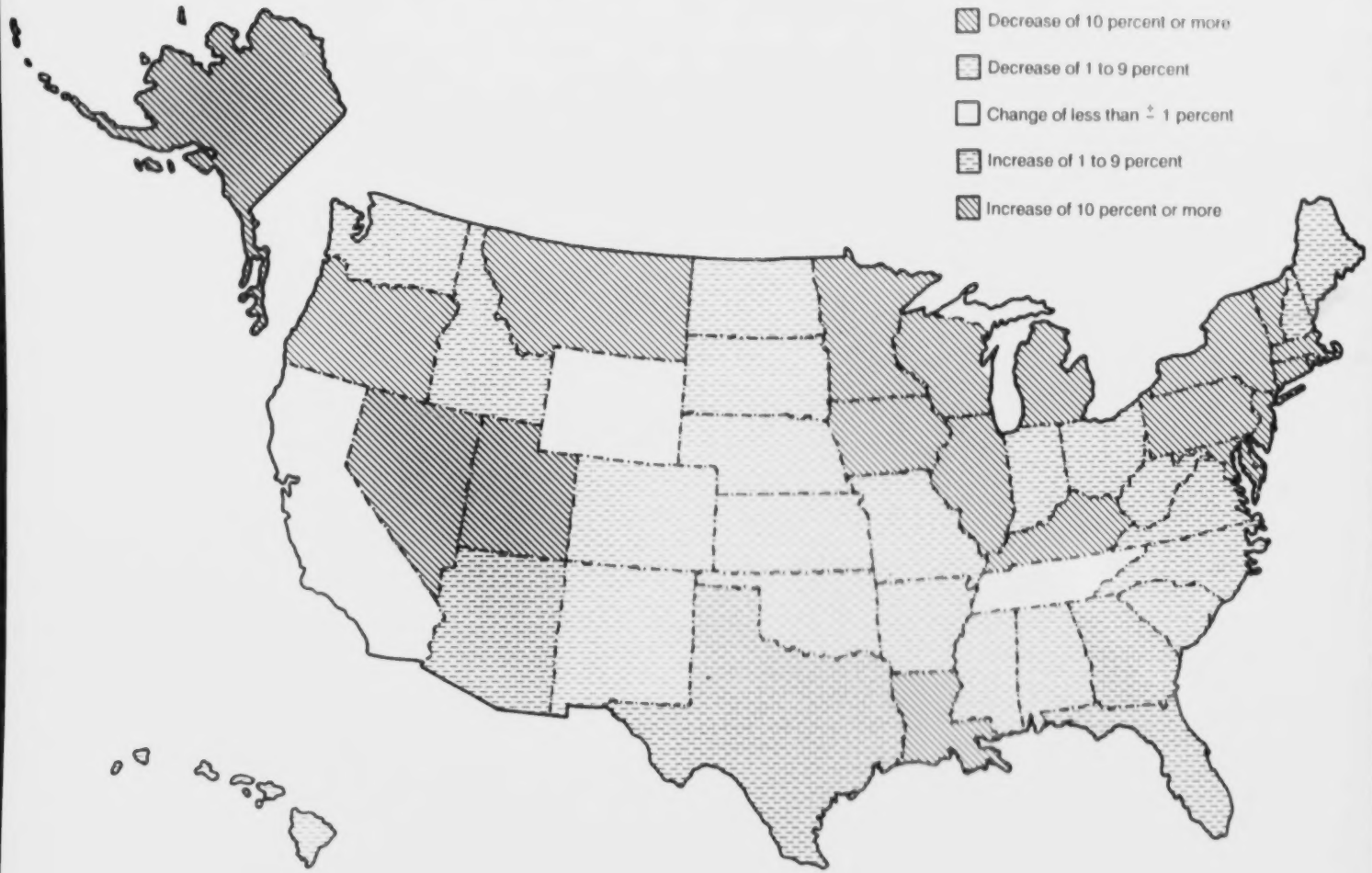

Decrease of 10 percent or more
Decrease of 1 to 9 percent
Change of less than ± 1 percent
Increase of 1 to 9 percent
Increase of 10 percent or more

Figure 16
Percent Change by State, 1986-2004
Public and Non-public High School Graduates

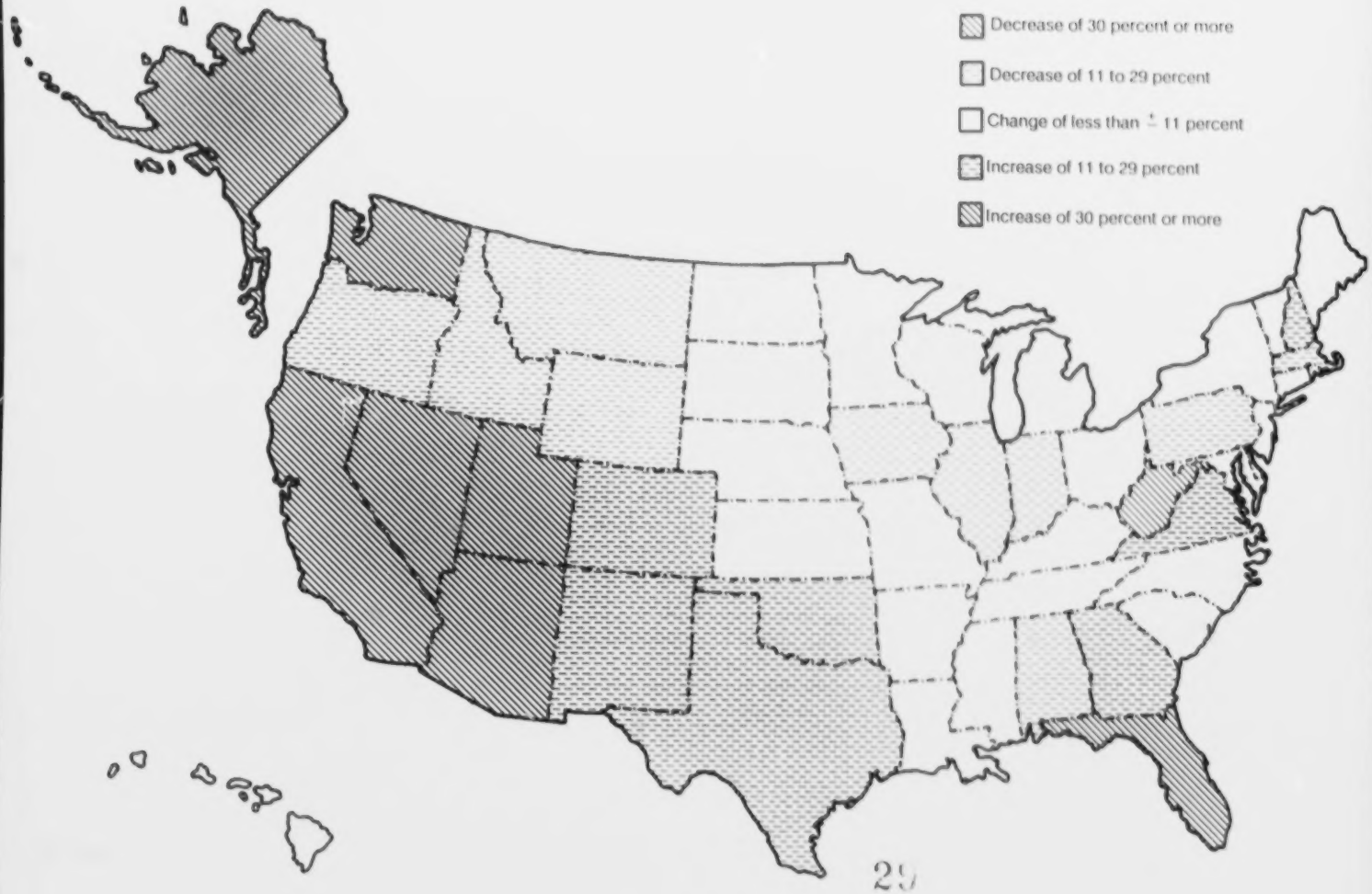

Decrease of 30 percent or more
Decrease of 11 to 29 percent
Change of less than ± 11 percent
Increase of 11 to 29 percent
Increase of 30 percent or more

Table 4

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Alabama		Alaska		Arizona		Arkansas		California		Colorado	
	public	non-public (est.)	public	non-public*	public	non-public*	public	non-public	public	non-public	public	non-public (est.)
1978-79	47,137		5,068		30,059		28,302	929	250,708	22,877	37,233	
1979-80	45,190		5,223		28,633		29,052	907	249,217	22,654	36,804	
1980-81	44,894		5,358		28,416		29,414	952	242,172	21,217	35,993	
1981-82	45,409		5,477		28,049		29,801	969	241,343	24,581	35,494	
1982-83	44,352		5,558		28,332		28,447	844	236,897	25,097	34,875	
1983-84	42,021		5,547		26,530		27,049	859	232,199	25,434	32,954	
1984-85	40,002		5,184		27,877		26,342	840	225,448	25,695	32,255	
1985-86	39,620	3,235	5,464	110	27,533	875	26,227	805	229,026	23,124	32,621	2,458
1986-87	41,505	3,630	5,692	121	29,549	753	27,224	804	224,896	24,548	33,893	2,275
1987-88	41,175	3,244	6,179	175	30,811	719	27,586	800	245,858	24,399	35,230	2,320
1988-89	40,370	3,436	6,163	145	31,704	583	28,289	738	239,618	22,669	34,831	1,999
1989-90	39,357	3,274	5,839	190	31,196	680	26,919	693	230,640	20,821	33,452	1,925
1990-91	37,510	3,180	5,730	310	30,922	621	26,144	571	226,037	19,222	31,453	1,802
1991-92	37,297	2,642	5,822	375	30,553	543	26,154	571	232,698	18,608	30,899	1,699
1992-93	36,367	2,468	5,993	517	30,937	513	25,614	586	239,321	17,719	31,706	1,743
1993-94	35,521	2,300	6,227	592	31,966	495	25,648	540	249,902	16,976	31,937	1,708
1994-95	37,189	2,160	6,737	781	34,634	475	26,134	541	264,836	16,336	33,116	1,619
1995-96	36,447	2,055	6,968	998	35,992	449	26,068	536	274,859	15,694	33,796	1,616
1996-97	36,892	1,855	7,346	1,217	38,346	429	27,052	556	292,680	15,178	35,701	1,604
1997-98	37,741	1,917	7,931	1,340	41,358	586	27,690	544	315,575	14,888	37,536	1,622
1998-99	36,761	1,834	8,017	1,219	42,604	604	26,559	573	332,082	14,458	39,357	1,745
1999-00	36,043	1,798	8,919	1,356	43,435	616	26,147	564	342,171	12,916	41,179	1,835
2000-01	35,302	1,761	9,500	1,444	43,676	619	25,858	558	349,859	12,699	40,869	1,830
2001-02	35,330	1,763	9,844	1,497	45,483	645	25,773	556	362,121	13,039	40,437	1,820
2002-03	35,665	1,779	10,129	1,540	48,978	695	26,050	562	384,098	13,722	40,809	1,846
2003-04	35,532	1,773	9,551	1,452	50,198	712	25,482	550	396,220	14,045	40,622	1,847

*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.
(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.
N/A indicates data are not available.
Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Connecticut		Delaware		District of Columbia		Florida		Georgia		Hawaii	
	public	non-public	public	non-public	public	non-public (est.)	public	non-public*	public	non-public (est.)	public	non-public
1978-79	39,727	6,186	8,449	1,381	5,758		88,203		62,179		11,637	2,460
1979-80	37,683	7,423	8,882	1,472	5,124		87,826		61,621		11,488	2,520
1980-81	38,577	7,515	9,240	1,654	4,848		88,755		62,963		12,125	2,522
1981-82	37,706	7,530	7,826	1,654	4,521		89,199		64,489		11,563	2,385
1982-83	36,204	7,790	7,492	1,635	4,909		86,871		63,293		10,757	2,494
1983-84	33,686	7,539	6,923	1,662	4,073		85,908		60,718		10,454	2,494
1984-85	31,880	7,484	6,397	1,609	3,940		81,140		58,654		10,092	2,424
1985-86	30,479	7,341	6,343	1,608	3,875	987	83,029	9,507	59,082	4,190	9,958	2,510
1986-87	31,087	7,478	6,374	1,705	3,842	952	83,261	9,544	60,723	4,942	10,491	2,597
1987-88	30,970	7,445	6,446	1,617	4,184	907	90,404	9,491	61,285	4,644	10,666	2,668
1988-89	29,139	7,015	6,440	1,585	3,641	875	92,050	8,897	63,718	5,168	10,328	2,441
1989-90	26,649	6,148	6,170	1,423	3,563	774	94,031	8,083	57,516	5,176	9,861	2,403
1990-91	24,631	5,699	5,752	1,304	3,486	667	88,332	7,934	59,732	5,285	9,643	2,138
1991-92	24,319	5,400	5,625	1,312	3,314	662	86,798	7,911	59,008	4,617	9,662	2,024
1992-93	23,964	5,360	5,902	1,251	3,215	621	87,780	7,737	60,421	4,533	9,452	2,040
1993-94	23,642	5,445	5,814	1,186	2,968	613	86,999	7,768	60,104	4,441	9,798	2,024
1994-95	24,244	5,518	6,095	1,089	3,217	596	90,309	8,026	62,522	4,384	9,871	1,932
1995-96	24,612	5,537	6,321	1,052	3,079	608	92,471	7,950	65,809	4,384	9,747	1,867
1996-97	25,486	5,592	6,897	942	3,248	582	101,139	8,478	67,633	4,161	9,997	1,868
1997-98	26,540	5,692	7,112	984	3,232	618	106,254	9,258	71,161	4,516	10,292	1,864
1998-99	26,607	6,105	6,580	845	3,275	703	113,225	10,072	69,162	4,327	10,625	1,878
1999-00	27,028	6,201	6,613	810	3,342	706	118,437	10,507	69,923	4,354	10,918	1,874
2000-01	27,310	6,266	6,599	765	3,447	717	122,513	10,838	70,029	4,341	11,204	1,929
2001-02	28,061	6,438	6,537	761	3,508	719	128,026	11,295	72,050	4,446	10,965	1,888
2002-03	29,247	6,711	6,725	786	3,669	741	135,309	11,905	75,519	4,640	10,716	1,845
2003-04	29,630	6,798	6,854	804	3,800	756	138,902	12,188	77,309	4,731	10,671	1,837

*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.
(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.
N/A indicates data are not available.
Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Idaho		Illinois		Indiana		Iowa		Kansas		Kentucky	
	public	non-public	public	non-public	public	non-public	public	non-public*	public	non-public	public	non-public
1978-79	13,457	203	139,230	21,439	77,418	4,290	44,164		32,132	2,008	41,402	4,303
1979-80	13,246	232	135,579	19,137	75,639	4,203	43,151		30,890	1,617	41,203	4,244
1980-81	12,931	237	137,178	19,803	75,452	5,226	42,355		29,397	1,578	42,234	4,158
1981-82	12,554	228	136,534	20,268	76,032	4,218	41,509		28,298	1,562	42,636	4,182
1982-83	12,130	223	128,814	20,047	72,560	4,559	39,612		28,316	1,732	40,839	4,124
1983-84	12,106	263	122,561	19,374	67,445	3,638	37,248		26,730	1,580	39,465	3,891
1984-85	12,148	243	117,027	19,027	64,904	4,297	36,087		25,983	1,577	38,532	3,714
1985-86	12,073	238	114,319	18,451	61,201	4,029	34,550	2,795	25,587	1,608	37,762	3,608
1986-87	12,243	300	116,075	18,338	63,417	4,335	34,773	2,776	26,581	1,572	37,665	3,602
1987-88	12,653	317	118,254	18,474	65,277	4,659	35,382	2,764	26,737	1,474	39,538	3,639
1988-89	12,371	299	116,461	17,491	65,784	4,352	34,419	2,440	27,095	1,445	40,459	3,360
1989-90	11,763	267	108,670	15,620	63,149	4,132	31,937	2,248	25,684	1,303	38,323	3,022
1990-91	11,434	273	101,710	14,829	59,697	4,049	29,173	2,143	24,517	1,276	35,782	2,948
1991-92	11,552	273	100,466	14,457	57,306	3,913	28,741	2,047	24,424	1,247	33,991	2,701
1992-93	11,487	277	99,446	14,126	57,344	4,156	29,564	2,134	24,979	1,320	35,480	2,812
1993-94	11,597	290	98,807	13,589	55,650	4,103	28,902	2,071	25,319	1,329	35,853	2,840
1994-95	11,872	318	102,332	13,449	57,284	4,250	29,828	2,176	26,793	1,359	37,624	3,014
1995-96	11,804	317	101,481	12,515	57,681	4,336	30,024	2,093	26,753	1,323	37,608	2,897
1996-97	11,868	329	106,399	12,356	57,846	4,416	30,659	2,122	27,771	1,323	38,222	2,875
1997-98	11,649	335	108,760	11,991	59,801	4,643	31,666	2,167	29,682	1,373	38,644	2,910
1998-99	11,402	316	107,440	10,821	57,259	4,420	31,287	2,067	29,997	1,415	37,815	2,878
1999-00	11,241	313	106,666	10,014	56,744	4,380	30,547	1,967	29,673	1,371	37,487	2,830
2000-01	10,591	294	103,909	9,474	54,638	4,217	29,620	1,858	29,388	1,329	36,428	2,728
2001-02	10,170	278	104,139	9,495	54,034	4,171	29,087	1,778	29,089	1,287	35,699	2,653
2002-03	9,911	266	104,977	9,572	54,741	4,225	28,350	1,687	28,698	1,242	35,445	2,613
2003-04	9,281	245	102,600	9,355	53,618	4,139	26,743	1,550	28,523	1,208	34,989	2,559

*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.
(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.
N/A indicates data are not available.
Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Louisiana		Maine		Maryland		Massachusetts		Michigan		Minnesota	
	public	non-public	public	non-public	public	non-public	public	non-public*	public	non-public	public	non-public
1978-79	46,861	8,863	15,402	1,563	55,276	6,667	76,630		130,588	12,151	67,108	4,231
1979-80	46,297	8,634	15,445	1,816	54,491	6,876	76,872		124,316	11,788	66,062	4,296
1980-81	46,199	8,372	15,554	1,841	54,050	6,843	75,820		124,372	11,757	64,166	4,277
1981-82	46,324	8,104	15,186	1,827	54,621	6,957	74,299		121,030	11,614	62,145	4,284
1982-83	39,895	7,124	14,764	1,840	52,446	6,907	71,225		115,205	10,460	61,612	4,098
1983-84	39,539	5,710	13,935	1,870	50,684	6,756	66,892		107,443†	N/A	58,070	4,217
1984-85	39,021	7,816	13,924	1,797	48,299	6,876	64,018		111,816	11,345	53,352	4,178
1985-86	38,409	8,357	13,006	1,767	46,700	6,738	61,261	11,162	107,184	10,742	51,988	4,161
1986-87	38,800	8,634	13,692	1,827	46,299	7,140	60,633	11,347	107,658	10,958	53,560	4,224
1987-88	37,920	7,958	13,841	1,829	46,877	7,154	60,658	11,378	111,467	11,209	55,246	4,174
1988-89	37,283	7,586	14,144	1,870	44,874	6,815	57,227	11,118	108,655	10,492	53,717	3,672
1989-90	37,432	6,758	13,196	1,698	43,411	6,212	52,312	10,087	101,916	9,269	49,728	3,464
1990-91	35,697	6,425	12,543	1,380	38,478	5,779	47,737	10,030	96,447	9,069	46,632	3,142
1991-92	35,222	6,272	12,193	1,340	37,884	5,655	45,946	9,498	93,886	8,809	46,765	3,072
1992-93	36,215	6,169	12,268	1,192	37,887	5,686	44,287	9,691	92,437	8,713	47,784	3,235
1993-94	36,683	5,853	11,982	1,222	37,208	5,749	43,357	9,764	90,007	8,831	47,654	3,127
1994-95	38,458	6,144	12,312	1,140	39,774	6,057	44,157	9,900	93,158	9,041	49,972	3,261
1995-96	38,892	5,950	12,798	1,105	40,183	6,106	44,469	9,956	95,284	9,281	51,982	3,308
1996-97	40,119	5,926	13,051	1,166	42,049	6,346	45,588	10,241	98,213	9,605	54,366	3,358
1997-98	39,594	5,896	12,889	1,125	43,950	6,665	47,215	10,555	101,499	9,701	57,545	3,335
1998-99	41,981	6,595	13,133	1,170	43,904	6,012	47,212	11,039	98,785	9,364	57,681	3,308
1999-00	43,189	6,784	13,261	1,161	45,455	5,752	48,166	11,310	97,705	9,144	57,651	3,159
2000-01	42,108	6,615	13,191	1,135	45,610	5,429	48,139	11,352	94,954	8,775	55,249	2,999
2001-02	41,603	6,535	13,260	1,121	46,528	5,255	49,298	11,676	97,674	8,913	56,308	2,944
2002-03	41,589	6,533	13,504	1,121	48,468	5,687	51,331	12,210	100,099	9,017	56,981	3,043
2003-04	39,823	6,256	13,378	1,090	49,565	5,764	51,319	12,260	100,529	8,209	55,668	3,054

†Estimate, 1983-84 high school graduates are not available for Michigan.

*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.

(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.

N/A indicates data are not available.

Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire	
	public	non-public (est.)	public	non-public	public	non-public (est.)	public	non-public	public	non-public	public	non-public*
1978-79	28,168		64,163	5,191	12,068	425	23,182	2,470	8,319	272	11,883	
1979-80	27,586		62,265	5,815	12,135	434	22,419	2,384	8,473	300	11,722	
1980-81	28,083		60,340	6,509	11,634	462	21,422	2,307	9,069	306	11,938	
1981-82	28,023		59,872	5,966	11,162	454	21,139	2,377	9,240	359	11,763	
1982-83	27,271		56,420	6,379	10,689	391	20,010	2,187	8,979	370	11,478	
1983-84	26,324		53,388	6,000	10,224	322	18,683	2,197	8,726	370	11,438	
1984-85	25,315		51,306	6,137	10,016	354	18,159	2,043	8,174	383	10,950	
1985-86	25,134	2,289	49,204	5,663	9,761	318	17,861	1,953	8,430	391	10,870	1,650
1986-87	26,201	2,592	50,840	5,787	10,104	317	18,129	2,014	9,480	416	11,047	1,626
1987-88	27,104	2,337	51,396	6,004	10,270	311	18,452	1,985	9,795	438	11,619	1,757
1988-89	26,210	2,498	52,953	5,781	10,342	286	18,693	1,901	10,109	446	11,513	1,607
1989-90	25,482	2,402	51,055	5,154	9,503	259	17,820	1,740	9,451	333	10,911	1,503
1990-91	24,190	2,354	47,739	4,936	8,939	240	16,378	1,638	9,320	359	9,888	1,367
1991-92	23,099	1,973	46,982	5,100	8,853	233	16,530	1,680	9,487	399	10,039	1,320
1992-93	24,171	1,860	47,407	5,367	9,083	224	16,883	1,699	9,701	391	9,629	1,324
1993-94	24,126	1,749	46,555	5,418	9,144	215	16,111	1,760	10,201	380	9,535	1,321
1994-95	26,225	1,657	49,114	5,837	9,461	209	16,612	1,812	10,997	419	10,020	1,378
1995-96	25,635	1,591	50,247	6,062	9,498	203	16,593	1,747	11,373	449	10,507	1,368
1996-97	26,047	1,450	51,640	6,304	9,391	199	17,189	1,955	12,156	448	10,996	1,361
1997-98	27,193	1,512	52,010	6,509	9,750	196	17,744	1,984	13,113	442	12,280	1,434
1998-99	26,375	1,462	51,764	6,752	9,758	199	18,019	2,009	14,209	411	11,593	1,483
1999-00	26,202	1,452	51,646	6,742	9,811	202	17,829	1,993	15,372	439	12,072	1,538
2000-01	25,099	1,391	50,832	6,641	9,405	195	17,316	1,941	15,142	373	11,734	1,489
2001-02	26,668	1,478	50,060	6,546	9,463	197	17,165	1,930	16,123	411	12,176	1,538
2002-03	24,779	1,374	51,546	6,746	9,032	188	16,749	1,889	16,519	475	13,132	1,652
2003-04	23,887	1,324	50,440	6,607	8,517	177	15,972	1,806	18,018	432	13,580	1,702

*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.
(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.
N/A indicates data are not available.
Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio	
	public	non-public (est.)	public	non-public	public	non-public	public	non-public (est.)	public	non-public	public	non-public
1978-79	97,643		18,762	693	208,335	31,719	72,464		10,385	835	150,651	N/A
1979-80	94,564		18,334	709	204,064	31,873	70,862		9,994	803	144,169	N/A
1980-81	93,168		17,935	1,182	198,465	31,772	70,168		9,922	711	139,949	14,540
1981-82	93,750		17,635	1,091	194,605	32,251	71,210		9,537	722	139,899	14,698
1982-83	90,048		16,566	1,235	184,022	32,060	68,783		8,892	715	133,524	N/A
1983-84	85,569		15,823	1,390	174,762	31,139	66,803		8,569	701	127,837	14,540
1984-85	81,547		15,622	1,308	166,752	30,843	67,245		8,156	586	122,281	13,692
1985-86	78,781	15,939	15,468	1,417	162,165	30,428	65,865	2,813	7,610	539	119,561	13,244
1986-87	**79,193**	**16,587**	**15,702**	**1,374**	**163,139**	**30,428**	**66,045**	**2,884**	**7,821**	**511**	**121,844**	**13,145**
1987-88	**80,122**	**16,544**	**15,592**	**1,380**	**165,696**	**30,744**	**68,707**	**2,997**	**8,288**	**538**	**126,654**	**13,267**
1988-89	**75,888**	**16,729**	**15,604**	**1,226**	**158,504**	**28,586**	**68,983**	**2,857**	**7,978**	**392**	**127,088**	**12,641**
1989-90	**69,440**	**15,440**	**15,879**	**1,283**	**146,837**	**26,431**	**65,301**	**2,645**	**7,611**	**401**	**121,381**	**11,300**
1990-91	**64,821**	**14,184**	**15,435**	**1,257**	**138,780**	**24,808**	**62,756**	**2,487**	**7,555**	**360**	**113,531**	**10,762**
1991-92	**63,868**	**14,533**	**15,436**	**1,273**	**134,403**	**24,442**	**61,194**	**2,482**	**7,316**	**353**	**111,087**	**10,314**
1992-93	**63,909**	**13,719**	**15,604**	**1,409**	**135,865**	**24,070**	**59,846**	**2,446**	**7,336**	**332**	**112,419**	**10,474**
1993-94	**62,824**	**13,712**	**15,508**	**1,459**	**134,642**	**24,291**	**57,971**	**2,374**	**7,393**	**311**	**110,566**	**10,125**
1994-95	**65,174**	**13,340**	**16,383**	**1,475**	**138,761**	**24,017**	**60,406**	**2,402**	**7,737**	**341**	**114,078**	**10,363**
1995-96	**65,473**	**13,397**	**16,918**	**1,605**	**140,990**	**23,354**	**60,244**	**2,377**	**7,744**	**314**	**115,709**	**10,192**
1996-97	**64,426**	**13,076**	**17,406**	**1,658**	**142,873**	**23,286**	**60,807**	**2,345**	**7,761**	**297**	**120,337**	**10,406**
1997-98	**68,517**	**13,605**	**18,382**	**1,720**	**146,074**	**23,190**	**62,293**	**2,336**	**7,920**	**297**	**123,574**	**10,248**
1998-99	**67,134**	**13,355**	**18,716**	**1,752**	**147,061**	**23,133**	**60,840**	**2,312**	**8,256**	**322**	**119,987**	**9,050**
1999-00	**68,680**	**13,635**	**19,466**	**1,822**	**151,052**	**22,563**	**62,407**	**2,372**	**8,421**	**328**	**118,189**	**8,060**
2000-01	69,179	13,707	19,381	1,814	152,792	21,633	60,915	2,315	8,238	321	114,042	7,711
2001-02	70,862	14,013	19,269	1,804	155,086	21,163	62,463	2,374	7,874	307	113,787	6,894
2002-03	74,082	14,621	19,339	1,810	161,240	21,285	64,937	2,468	7,780	303	115,289	6,695
2003-04	76,522	15,073	19,221	1,799	164,840	21,959	65,545	2,491	7,205	281	113,505	6,685

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(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.
N/A indicates data are not available.
Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota	
	public	non-public*	public	non-public	public	non-public	public	non-public†	public	non-public (est.)	public	non-public
1978-79	39,225		30,228	1,405	155,442	26,038	11,436		37,527		11,092	752
1979-80	39,305		29,939	1,371	146,458	24,188	11,070		37,672		10,689	755
1980-81	38,823		29,354	1,499	144,518	24,557	10,922		37,913		10,431	746
1981-82	38,347		28,780	1,455	143,356	24,185	10,778		38,647		9,864	686
1982-83	36,799		28,099	1,466	137,494	22,835	10,533		37,570		9,206	698
1983-84	35,254		27,214	1,590	132,412	22,332	9,876	1,759	36,101		8,638	666
1984-85	34,626		26,870	1,503	127,226	22,440	9,399	1,859	35,004		8,206	743
1985-86	34,452	596	26,286	1,460	122,871	22,134	8,915	1,761	34,415	2,235	7,870	512
1986-87	35,514	654	27,165	1,501	122,393	21,525	8,776	1,799	33,515	2,141	8,074	523
1987-88	36,643	652	27,870	1,639	124,594	21,380	8,896	1,845	35,875	1,938	8,402	563
1988-89	37,047	630	26,874	1,510	118,463	20,194	8,525	1,675	36,867	1,839	8,336	534
1989-90	35,055	621	25,492	1,479	112,068	18,586	8,142	1,438	35,814	1,807	7,782	487
1990-91	33,397	558	23,729	1,396	105,377	17,693	7,696	1,387	34,662	1,771	7,275	421
1991-92	33,045	623	23,498	1,470	102,555	17,022	7,456	1,246	34,243	1,868	7,281	378
1992-93	31,693	620	24,070	1,624	101,110	17,322	7,320	1,199	33,531	1,847	7,686	413
1993-94	32,993	653	23,954	1,687	99,726	17,078	7,376	1,154	33,777	1,826	7,894	428
1994-95	34,483	667	24,814	1,823	103,525	17,490	7,676	1,165	35,559	1,606	8,150	449
1995-96	34,800	720	24,700	1,930	105,420	17,491	7,788	1,093	35,622	1,523	8,253	425
1996-97	35,331	736	25,363	2,142	109,263	18,204	8,198	1,125	37,239	1,508	8,612	428
1997-98	38,362	732	24,626	2,121	112,174	18,003	9,018	1,106	37,292	1,441	9,081	402
1998-99	40,426	860	25,279	2,309	111,377	17,119	8,608	1,194	36,977	1,674	8,620	438
1999-00	44,292	943	23,519	2,204	112,747	16,611	8,671	1,200	36,697	1,668	8,697	442
2000-01	42,868	912	22,319	2,147	110,530	15,387	8,741	1,208	35,969	1,641	8,482	431
2001-02	40,956	872	22,088	2,125	110,220	15,248	8,806	1,214	35,705	1,636	8,421	428
2002-03	40,034	852	22,023	2,118	112,880	15,498	9,065	1,248	36,463	1,677	8,216	417
2003-04	38,101	811	21,258	2,045	113,525	15,871	9,310	1,279	36,228	1,673	7,873	400

†Rhode Island did not collect non-public enrollments by grade or graduates prior to 1983-84.

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(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.

N/A indicates data are not available.

Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Tennessee		Texas		Utah		Vermont		Virginia	
	public	non-public (est.)	public	non-public (est.)	public	non-public	public	non-public†	public	non-public (est.)
1978-79	47,587		168,518		20,045	229	6,721		67,027	
1979-80	50,033		171,449		20,035	247	6,627		66,539	
1980-81	51,021		171,665		19,886	234	6,561		67,147	
1981-82	51,646		172,099		19,400	267	6,559		67,809	
1982-83	46,888		168,897		19,210	233	6,180		65,571	
1983-84	44,711		161,580		19,350	268	6,002		62,177	
1984-85	43,263		159,343		19,606	299	5,769		60,959	
1985-86	43,263	2,899	161,150	9,044	19,774	299	5,813	982	63,113	3,980
1986-87	45,459	3,234	168,430	10,925	20,930	332	5,887	1,129	65,677	4,946
1987-88	47,116	2,873	169,102	10,514	22,860	324	6,065	1,150	66,699	4,896
1988-89	48,082	3,026	177,719	11,984	23,364	359	5,858	1,134	65,971	5,740
1989-90	46,318	2,869	174,840	12,298	22,784	314	5,364	1,176	62,143	6,060
1990-91	44,501	2,772	170,221	12,869	24,159	314	5,084	1,122	59,498	6,517
1991-92	44,013	2,292	169,622	11,522	25,021	348	4,980	1,167	58,287	6,002
1992-93	43,202	2,128	171,161	11,589	25,929	332	5,018	1,228	58,484	6,211
1993-94	42,639	1,972	171,605	11,630	28,304	357	4,998	1,270	59,151	6,413
1994-95	44,838	1,842	178,705	11,765	29,921	399	5,104	1,338	62,935	6,671
1995-96	45,050	1,744	181,697	12,058	28,498	377	5,335	1,250	64,404	7,033
1996-97	46,126	1,566	189,193	11,726	31,393	440	5,485	1,416	68,144	7,037
1997-98	46,220	1,609	196,334	13,037	32,585	491	5,664	1,418	71,741	8,051
1998-99	46,182	1,549	193,879	13,129	32,705	439	5,857	1,449	71,921	7,696
1999-00	46,471	1,550	200,240	13,881	32,991	441	5,910	1,462	74,459	7,873
2000-01	45,618	1,513	190,961	13,764	31,410	419	5,853	1,448	75,055	7,842
2001-02	45,513	1,501	189,105	13,931	30,570	407	5,846	1,446	77,718	8,024
2002-03	47,040	1,542	194,347	14,363	29,974	398	5,910	1,462	81,797	8,347
2003-04	46,968	1,531	193,315	14,316	29,204	387	5,961	1,475	83,854	8,458

†Vermont non-public enrollments by grade were available for 1983-84 through 1985-86 only. Historical data for non-public high school graduates are not available.
*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.
(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.
N/A indicates data are not available.
Refer to the text for an explanation of the projection methodology and estimation procedures.

Table 4 (continued)

Public and Non-Public High School Graduates by State

1979-1986 (actual), 1987-2004 (projected)

	Washington		West Virginia		Wisconsin		Wyoming		U. S. Total	
	public	non-public	public	non-public	public	non-public	public	non-public (est.)	public**	non-public
1978-79	51,108	2,429	23,570	749	71,291	6,868	5,982		2,806,950	
1979-80	50,402	2,526	23,369	1,007	69,332	6,901	6,072		2,755,512	
1980-81	49,912	2,592	23,580	720	67,743	7,949	6,161		2,730,193	
1981-82	49,971	2,624	23,589	763	67,357	6,889	5,999		2,714,081	
1982-83	46,667	2,779	23,561	735	64,321	6,716	5,909		2,608,992	
1983-84	44,606	2,821	22,613	696	62,189	6,352	5,764		2,496,813	
1984-85	45,798	2,937	22,262	651	58,851	6,314	5,687		2,422,714	
1985-86	45,798†	2,937†	21,870	676	58,340	6,182	5,587	171	2,387,524	262,918
1986-87	**47,733**	**2,897**	**22,401**	**784**	**57,088**	**6,027**	**5,933**	**146**	**2,424,455**	**270,647**
1987-88	**49,717**	**2,727**	**22,477**	**711**	**58,262**	**6,023**	**6,142**	**137**	**2,499,057**	**269,132**
1988-89	**49,283**	**2,586**	**22,852**	**749**	**55,539**	**5,506**	**6,140**	**109**	**2,473,566**	**259,018**
1989-90	**45,087**	**2,231**	**21,697**	**710**	**53,034**	**4,812**	**5,890**	**97**	**2,354,896**	**239,542**
1990-91	**43,490**	**2,201**	**20,933**	**696**	**50,353**	**4,668**	**5,812**	**84**	**2,244,737**	**229,295**
1991-92	**43,741**	**2,105**	**20,365**	**617**	**49,539**	**4,391**	**5,711**	**72**	**2,220,177**	**220,877**
1992-93	**43,813**	**2,147**	**19,814**	**633**	**49,914**	**4,496**	**5,682**	**68**	**2,230,133**	**219,772**
1993-94	**44,608**	**2,160**	**19,323**	**634**	**48,352**	**4,212**	**5,502**	**62**	**2,228,327**	**217,502**
1994-95	**47,752**	**2,166**	**19,975**	**663**	**52,444**	**4,417**	**5,491**	**54**	**2,328,809**	**219,330**
1995-96	**48,763**	**2,211**	**19,476**	**690**	**51,946**	**4,327**	**5,242**	**49**	**2,363,051**	**217,514**
1996-97	**51,507**	**2,233**	**18,025**	**660**	**55,303**	**4,399**	**5,423**	**45**	**2,454,204**	**218,976**
1997-98	**54,204**	**2,319**	**18,643**	**730**	**57,822**	**4,355**	**5,362**	**42**	**2,553,292**	**223,857**
1998-99	**56,049**	**2,266**	**18,487**	**670**	**56,613**	**4,435**	**5,507**	**47**	**2,564,948**	**221,280**
1999-00	**57,241**	**1,924**	**18,160**	**657**	**56,627**	**4,404**	**5,940**	**48**	**2,605,752**	**218,176**
2000-01	**57,366**	**1,835**	**17,270**	**624**	**55,234**	**4,295**	**5,614**	**44**	**2,577,355**	**213,018**
2001-02	**62,324**	**1,744**	**16,420**	**592**	**55,654**	**4,328**	**5,340**	**42**	**2,610,708**	**213,164**
2002-03	**66,516**	**1,738**	**16,156**	**581**	**56,109**	**4,363**	**5,124**	**40**	**2,687,085**	**218,141**
2003-04	**65,619**	**1,558**	**14,893**	**535**	**55,028**	**4,279**	**4,727**	**37**	**2,693,925**	**218,169**

†Estimates, the state of Washington could not provide actual public on non-public graduates for 1985-86.

**1983-84 contains an estimate of public high school graduates for Michigan, which could not provide data for that year. 1985-86 contains an estimate of public high school graduates for the state of Washington, which could not provide data for tha year.

*Designates those states for which historical data for non-public high school graduates are not available. Non-public graduates for 1985-86 are estimates.

(est.) designates states for which both non-public historical enrollments and high school graduates are not available. Non-public graduates from 1985-86 through 2003-04 are estimates.

N/A indicates data are not available.

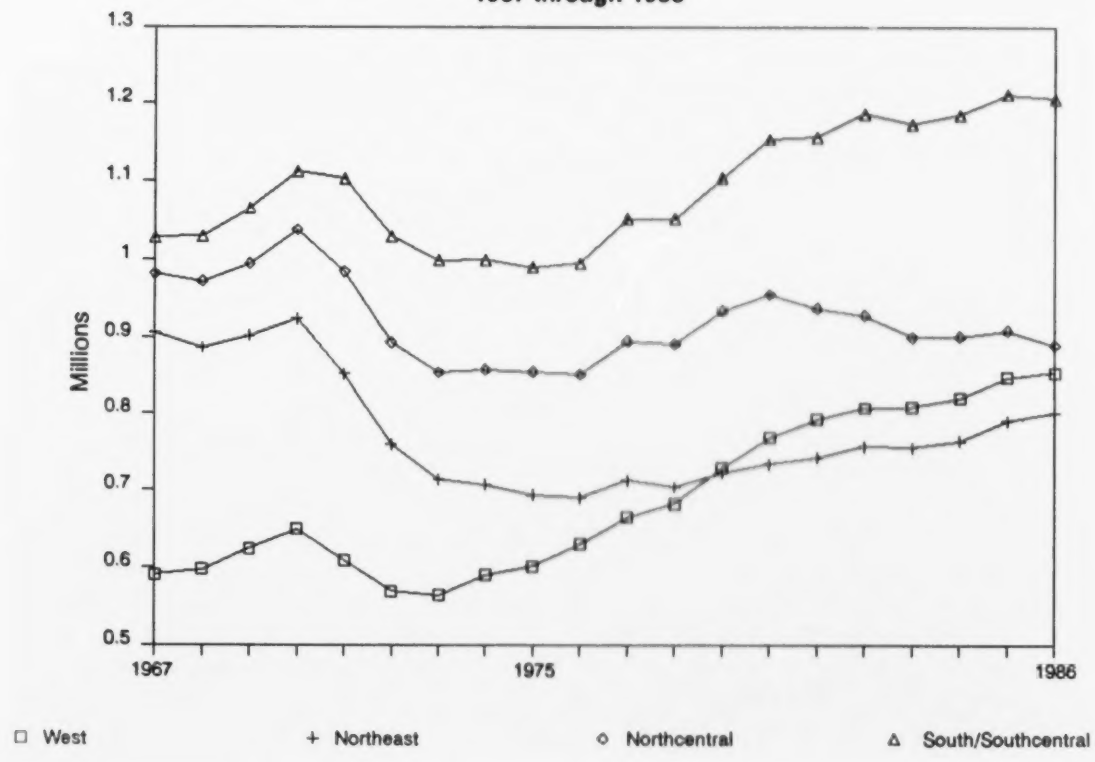
Refer to the text for an explanation of the projection methodology and estimation procedures.

Methodology

Projections for each state are based on the cohort survival method. This method assumes that enrollments and graduates can be projected by measuring the retention of birth cohorts from one grade level to the next. State education agencies supplied historical data on elementary and secondary enrollments and actual high school graduates. Resident live birth data, collected from state vital statistics agencies, form the basis for these projections.

While the survival of a given cohort as it progresses through school is affected by a variety of factors (e.g., migration, mortality, non-promotion, and persistence in high school), the relative size of each cohort is directly related to the number of births. The birth of a relatively large number of babies in a given year will result in a relatively large first grade class six years later, and graduating class 18 years later. To illustrate, the West and South experienced significant growth in the size of their birth cohorts after 1975. In 1986, births exceeded 1970 levels by 31.3 percent in the West, and 8.5 percent in the South. The relative size of birth cohorts in the Northcentral and Northeast regions remained

Figure 17
Births by Region
1967 through 1986



significantly below 1970 levels. Figure 15 graphically represents these variations in the size of birth cohorts by region from 1967 through 1986. These trends correspond closely to the major drop in high school graduates projected for 1992 and the increase in graduates for the West and South through the year 2004.

The survival of each birth cohort, from first grade through graduation, is then measured by progression ratios. The progression ratio represents the change between the number of students enrolled in a grade for a single year and those students who continued to the next grade the following year. If 100 percent of the students continued to the next grade, the progression ratio would equal 1.0. The projection ratio will vary from 1.0 to the extent enrollments are affected by migration, deaths, transfers in and out of the school system (i.e., from public to non-public schools and vice versa), and non-promotion.

Historical progression ratios were analyzed to determine the most appropriate ratio for each transition. Significant variations in trends were noted for earlier years. In contrast, the pattern of transition ratios was found to be relatively stable for more recent years. On the basis of this analysis, the majority of projection ratios are constants based on a six-year smoothed average. (Smoothed averages place more weight on the final year of data, while minimizing the effect of inconsistencies in the ratios for earlier years.) This procedure is consistent with standard statistical practices in cases where longer time series of historical data contain significant variations.

In a minority of cases, an examination of historical progression ratios indicated that a constant was not appropriate. Where the progression ratios for a specific transition declined or increased steadily over a significant period of time, progression ratios after 1986-87 were projected by extending these trends forward. In most such cases, a simple linear regression was used to project these trends forward. In a minority of cases, a polynomial function was used to project non-linear trends.

In addition, for a small number of states an alternative version of this methodology was used for either public or non-public projections. Specifically, when three or more of the projection ratios were trend lines (i.e., non-constants) and all moved in the same direction, the trend line was terminated beginning in the fourth projection year by substituting a constant for all subsequent progression ratios. The constant used was the projected transition ratio as of the third year of the trend line. These truncated trend line progression ratios were substituted for the variable ratios after 1990 in the following cases: public high school graduate projections for Idaho, Oregon, Montana, and Wyoming, and non-public graduate projections for California, Delaware, Hawaii, Illinois, and Wisconsin. It should be noted that the post-1990 projections in these instances would be significantly lowered by continuing to use the downward trend lines. In essence, current trends indicate a more negative outlook in these nine instan-

ces, while use of this alternative methodology assumes that these downward trends will stabilize.

A more detailed description and explanation of the projection methodology applied in each state and the actual projection ratios used for each transition are included with the state and regional supplementary materials available from WICHE. (See page ii.) These supplementary materials also include worksheets containing the complete historical data for each state and grade-by-grade enrollment estimates. Examples of two state worksheets are provided in the Appendix to this report.

Underlying Factors

As mentioned, several underlying factors affect the progression of birth cohorts through the educational system. Non-promotion, persistence in high school, and migration each have an impact on the actual number of graduates in any given year. When enrollments and graduates are aggregated to a national or regional level these factors do not have a significant impact on the relative size of different cohorts. However, these variables may have a noticeable impact on individual states.

Non-promotion, the practice of requiring students to repeat a grade, is most common from first to second grade. Typically, first grade enrollments are inflated, resulting in a larger progression ratio between birth and first grade. The effect of non-promotion on the size of individual cohorts is minimized by the movement of students among cohorts. That is, while some members of a cohort are lost due to non-promotion, students not promoted the previous year are promoted along with the current cohort.

Migration also has noticeable impacts. If migration were not a factor we would expect the number of students for a given birth cohort to change very little between second grade and sixth grade. During these years, non-promotion, dropouts, and mortality are of minor significance. Transfers in and out of the school system affect separate public and non-public totals, but this can be accounted for by combining enrollments.

Examination of two states whose populations have been significantly affected by migration between 1980 and 1986 illustrates the effect of migration on enrollments. California experienced a net increase in its 1974 birth cohort of 2.2 percent between 1980-81 and 1984-85. In contrast, Iowa, which has experienced net out-migration since 1980, had a decrease of 6.4 percent in its 1974 birth cohort over this period.

The effects of migration are compounded by attrition between ninth grade and graduation. Nationally, approximately 29 percent of the students who entered ninth grade in 1981 failed to graduate with their cohort in 1985. This figure should not be mistaken for a precise measure of dropouts. It reflects not only those students who have dropped out of school, but also an unknown measure of migration and transfers in and out of special vocational and technical programs, which are not included in reported enrollments and graduates by all states.

Non-public Estimates

In the past, users of this report have expressed interest in having an estimate of public and non-public graduates for all states. The lack of appropriate non-public data from a number of states limited our ability to meet this need. In 1987, 12 states (Alabama, Colorado, Georgia, Mississippi, Montana, New Jersey, North Carolina, South Carolina, Tennessee, Texas, Virginia, and Wyoming) and the District of Columbia did not have non-public enrollments by grade level available. Of these, only Montana was able to supply estimated data on non-public graduates. The alternative was to find a method for estimating non-public graduates for each of these states.

Estimates of non-public grade-level enrollments were derived from total state enrollments. Although, it would be preferable to derive estimates from separate elementary and secondary enrollments, this was not possible given the data available. Education officials in the District of Columbia and South Carolina were able to supply a minimum of seven years of total state enrollments. Total state enrollments for the remaining 11 states were taken from *QED's School Guide for 1985-86 and 1986-87.*[1] Quality Educational Data collects fall enrollments for public and non-public schools for 50 states and the District of Columbia. They estimate they are able to collect data from 99 percent of public and non-public schools nationwide. Information on response rates for individual states was not available.

Estimates of non-public enrollments were derived by distributing total enrollments to grades. This was accomplished by using non-public enrollments from states reporting complete grade level data as models. First, non-reporting and reporting states were paired according to their percentages of secondary to total

1 *QED's School Guide: Summary of School Market Management Statistics, 1985-86* (Denver, CO: Quality Educational Data, 1985); and *QED's School Guide: Summary of School Market Management Statistics, 1986-87* (Denver, CO: Quality Educational Data, 1986).

enrollments. Then, using the proportion of students in each grade level in the reporting states as a guide, total enrollments for the non-reporting states were distributed to grade levels.

Once the grade level enrollments were estimated, progression ratios were calculated. In the case of the 11 states for which only QED data were available, the grade progression ratios between estimated enrollments for 1985-86 and 1986-87 were used. For the District of Columbia and South Carolina, enough years of estimated data were available to derive six-year smoothed average projection ratios. Graduates for 1986 through 2004 were estimated for 12 states using their public six-year smoothed average projection ratio. The actual ratio between non-public 12th graders and estimated graduates for 1986 was used for Montana. Examples of the state worksheets containing estimated enrollments for 1985-86, 1986-87 and high school graduates for 1987 through 2004 are contained in the Appendix.

Accuracy

All projections contain a margin of error. As with all projection techniques, the goal of the cohort survival method is to minimize this error. Nevertheless, a variety of factors affect the accuracy of any given set of projections. These include the comparability and accuracy of historical data, errors in data entry, and the stability of historical trends.

Since estimating projection ratios depends on what is known about past progression ratios, errors and inconsistencies in the data have a significant effect on the accuracy of the final projections. In cases where changes in data collection procedures resulted in inconsistencies, projections were based on the years for which comparable data were available. All historical data were carefully proofed to avoid errors in entry.

The accuracy of non-public projections is significantly affected by the problems involved in collecting historical data. Non-public schools are not required to report enrollment and/or graduation data in most states. As a result, not all non-public schools report such data. Neither do we know if we are dealing with the same universe each year (i.e., the same schools may not report from year to year). These factors lead to inconsistencies in the data and increase the degree of error for non-public enrollments and graduates. These problems are compounded for those states for which non-public enrollments and graduates were estimated. The margin of error inherent in estimating historical grade-level enrollments adds to the projection error. Due to these factors, it is probably safe to assume that the non-public projections of high school graduates are low.

The method used to estimate the projection ratios also has an effect on the accuracy of the projections. If net migration, grade-to-grade student progression, and other factors affecting student transition through the school system to graduation have remained level over time, a constant is the best estimate of the projection ratio. However, where these factors have resulted in a steady increase or decrease a constant does not accurately represent current trends. If progression ratios continue to decline, a constant average projection ratio will tend to be too high. A declining projection ratio will more accurately depict current trends, and reduce the margin of error. This is true, of course, only for as long as current trends accurately describe future conditions.

As with all projection models, the cohort survival method tends to produce more accurate projections for years closest to the actual data. As we move farther into the future, trends are more likely to change and the margin of error increases. Projections of high school graduates in 1988 are expected to have a smaller margin of error than those for the year 2004. This limitation should be kept in mind by users of these projections.

Availability of Racial and Ethnic Data

Differential graduation rates among ethnic/racial groups and between the sexes are well documented. In 1985, 46.1 percent of Black males and 37.2 percent of Hispanic males between the ages of 15 and 24 had graduated from high school, compared with 71.6 percent of White males. The graduation rates of females were higher for all groups: 72 percent for White females, 54 percent for Black and 42.1 percent for Hispanic females.[2] Including projections of high school graduates by ethnicity/race and sex would enhance the accuracy of the projections, and provide a valuable analysis of the composition of future graduating classes as well as progression rates through the grades by gender and ethnicity.

With this in mind, efforts were made to collect enrollment and graduate data by ethnicity/race and/or sex. Unfortunately, data complete enough to generate projections were available at the time of publication from only 11 states. Limited data were available from 10 additional states. Moreover, due to a lack of consistency in the definitions of ethnic/racial classifications, the available data are not comparable between states. Adding to these problems is the frequent use of different racial/ethnic classifications for birth data reported by vital statistics agencies and enrollment data reported by education departments

2 Bureau of the Census, *Educational Attainment in the United States: March 1982 to 1985*, Current Population Reports, Series P-20, No. 415 (Washington, D.C.: U.S. Department of Commerce, 1987).

within states. For these reasons, it was not possible to include projections based on enrollments by ethnicity/race and/or sex in this publication.

WICHE intends to continue to explore the data availability and methodological alternatives for deriving racial and ethnic breakdowns of enrollments and graduates.

Appendix
Examples of State Worksheets

State Example: Historical Data

NEVADA - BIRTHS, ENROLLMENTS BY GRADE, AND HIGH SCHOOL GRADUATES

SHOWING PROGRESSION RATIOS - PUBLIC SCHOOLS

SCHOOL YEAR	BIRTHS YEAR	BIRTHS NUMBER	RATIO FIRST GRADE/ BIRTHS	FALL ENROLLMENT 1		2		3		4		5		6		7		8		9		10		11		12	RATIO GRADS/ 12TH GRADE	GRADS
1969-70	1963	9,496	1.148	10,899		10,431		10,363		9,933		9,649		9,527		9,543		9,277		8,970		8,526		7,811		6,559	0.831	5,449
					0.958		1.006		1.020		1.015		1.019		1.030		1.019		1.016		1.007		0.954		0.899			
1970-71	1964	10,038	1.106	11,107		10,438		10,498		10,570		10,083		9,833		9,817		9,725		9,430		8,986		8,131		7,025	0.840	5,899
					0.962		1.009		1.015		1.019		1.018		1.035		1.016		1.004		1.014		0.950		0.902			
1971-72	1965	9,468	1.117	10,578		10,685		10,534		10,659		10,771		10,266		10,181		9,986		9,764		9,560		8,533		7,333	0.846	6,206
					0.983		1.006		1.013		1.016		0.937		1.047		1.014		1.023		1.009		0.964		0.911			
1972-73	1966	9,052	1.086	9,832		10,400		10,748		10,670		10,830		10,095		10,750		10,324		10,197		9,849		9,218		7,772	0.825	6,414
					0.983		1.041		1.020		1.022		0.997		1.111		1.017		1.064		1.003		0.971		0.901			
1973-74	1967	8,557	1.119	9,574		9,663		10,516		10,961		10,903		10,796		11,214		10,932		10,989		10,232		9,566		8,302	0.822	6,822
					0.981		0.998		1.010		1.010		0.996		1.050		1.025		1.034		0.974		0.944		0.882			
1974-75	1968	8,672	1.076	9,334		9,389		9,644		10,622		11,074		10,863		11,339		11,493		11,304		10,703		9,661		8,437	0.853	7,195
					0.974		1.000		1.011		1.004		1.007		1.045		1.021		1.020		0.990		0.973		0.913			
1975-76	1969	9,048	1.135	10,266		9,092		9,388		9,746		10,664		11,146		11,349		11,575		11,770		11,192		10,409		8,816	0.858	7,566
					0.971		1.001		1.006		0.999		1.000		1.038		1.013		1.024		1.008		0.964		0.896			
1976-77	1970	9,572	1.131	10,828		9,970		9,102		9,441		9,735		10,661		11,575		11,496		11,852		11,790		10,787		9,326	0.859	8,011
					0.973		1.014		1.024		1.025		1.011		1.048		1.005		1.038		1.011		0.964		0.893			
1977-78	1971	9,650	1.160	11,194		10,540		10,110		9,324		9,678		9,839		11,168		11,629		11,932		11,982		11,368		9,633	0.855	8,233
					0.987		1.010		1.017		1.036		1.020		1.062		1.037		1.056		1.013		0.952		0.899			
1978-79	1972	9,033	1.152	10,409		11,050		10,648		10,285		9,659		9,876		10,452		11,586		12,279		12,090		11,402		10,225	0.814	8,319
					0.983		1.015		1.028		1.025		1.024		1.064		1.032		1.038		0.999		0.953		0.893			
1979-80	1973	8,600	1.214	10,444		10,232		11,212		10,945		10,538		9,893		10,506		10,788		12,030		12,262		11,521		10,184	0.832	8,473
					0.969		1.020		1.023		1.042		1.020		1.075		1.037		1.040		1.000		0.951		0.879			
1980-81	1974	8,966	1.176	10,547		10,121		10,441		11,473		11,403		10,753		10,637		10,893		11,222		12,027		11,657		10,131	0.895	9,069
					0.975		1.008		1.014		1.021		1.009		1.060		1.025		1.038		1.012		0.938		0.885			
1981-82	1975	9,056	1.183	10,710		10,280		10,204		10,587		11,735		11,503		11,400		10,906		11,308		11,358		11,284		10,313	0.896	9,240
					0.935		0.962		0.985		0.997		0.969		1.027		0.999		1.014		0.998		0.961		0.890			
1982-83	1976	9,659	1.157	11,178		10,013		9,889		10,053		10,557		11,374		11,813		11,383		11,055		11,281		10,917		10,044	0.894	8,979
					0.946		0.993		1.008		1.004		0.995		1.042		1.017		1.033		1.018		0.967		0.914			
1983-84	1977	10,519	1.130	11,883		10,569		9,943		9,968		10,092		10,506		11,852		12,012		11,760		11,250		10,912		9,977	0.875	8,726
					0.976		1.041		1.075		1.096		1.091		1.134		1.098		1.073		1.048		0.998		0.938			
1984-85	1978	11,304	1.092	12,347		11,599		11,000		10,688		10,921		11,017		11,912		13,016		12,886		12,330		11,224		10,230	0.799	8,174
					0.979		1.023		1.023		1.015		1.002		1.040		1.004		1.011		0.994		0.956		0.902			
1985-86	1979	12,756	1.041	13,278		12,093		11,866		11,255		10,853		10,949		11,452		11,964		13,154		12,810		11,787		10,127	0.832	8,430
					0.981		1.015		1.023		1.027		1.032		1.062		1.025		1.026		1.011		0.972		0.935			
1986-87	1980	13,626	1.065	14,511		13,022		12,280		12,135		11,561		11,703		11,625		11,740		12,273		13,299		12,448		11,023		

Note: The numbers between each row and column are the ratios of enrollment in one grade to the enrollment in the next grade the following year (e.g., the progression ratio from grade one in 1969-70 to grade two in 1970-71 is 0.958).

State Example: Projection Worksheet

PROJECTIONS - NEVADA PUBLIC SCHOOLS

SCHOOL YEAR	BIRTHS YEAR	BIRTHS NUMBER	RATIO FIRST GRADE/ BIRTHS	FALL ENROLLMENT 1		2		3		4		5		6		7		8		9		10		11		12	RATIO GRADS/ 12TH GRADE	GRADS
1986-87	1980	13,626	1.065	14,511		13,022		12,280		12,135		11,561		11,203		11,625		11,740		12,273		13,299		12,448		11,023	0.860	9,480 *
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1987-88	1981	14,439	1.089	15,724		14,047		13,126		12,550		12,463		11,781		11,886		11,951		12,104		12,433		12,847		11,390	0.860	9,795
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1988-89	1982	14,935	1.139	17,011		15,221		14,159		13,415		12,889		12,699		12,499		12,219		12,321		12,261		12,010		11,755	0.860	10,109
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1989-90	1983	14,686	1.141	16,757		16,467		15,343		14,471		13,777		13,134		13,474		12,849		12,598		12,481		11,844		10,989	0.860	9,451
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1		0.966		0.915			
1990-91	1984	15,263	1.169	17,842		16,221		16,598		15,680		14,861		14,039		13,935		13,851		13,248		12,762		12,057		10,838	0.860	9,320
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1991-92	1985	15,745	1.161	18,280		17,271		16,350		16,964		16,104		15,144		14,895		14,325		14,281		13,420		12,328		11,032	0.860	9,487
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1992-93	1986	16,277	1.225	19,939		17,695		17,410		16,710		17,422		16,410		16,067		15,312		14,769		14,466		12,964		11,280	0.860	9,701
					0.968		1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1993-94	1987					19,301		17,837		17,793		17,161		17,753		17,411		16,517		15,787		14,961		13,975		11,862	0.860	10,201
							1.008		1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1994-95	1988							19,456		18,229		18,273		17,487		18,835		17,898		17,029		15,992		14,453		12,787	0.860	10,997
									1.022		1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1995-96	1989									19,884		18,721		18,620		18,554		19,363		18,453		17,251		15,449		13,224	0.860	11,373
											1.027		1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1996-97	1990											20,421		19,077		19,756		19,073		19,963		18,693		16,664		14,135	0.860	12,156
													1.019		1.061		1.028		1.031		1.013		0.966		0.915			
1997-98	1991													20,809		20,241		20,309		19,665		20,223		18,057		15,248	0.860	13,113
															1.061		1.028		1.031		1.013		0.966		0.915			
1998-99	1992															22,078		20,807		20,939		19,920		19,535		16,522	0.860	14,209
																	1.028		1.031		1.013		0.966		0.915			
1999-00	1993																	22,696		21,452		21,211		19,243		17,875	0.860	15,377
																			1.031		1.013		0.966		0.915			
2000-01	1994																			23,400		21,731		20,490		17,607	0.860	15,142
																					1.013		0.966		0.915			
2001-02	1995																					23,704		20,992		18,748	0.860	16,123
																							0.966		0.915			
2002-03	1996																							22,898		19,208	0.860	16,519
																									0.915			
2003-04	1997																									20,952	0.860	18,018

*Projection, 1987 graduates not available

State Example: Non-Public Estimate

Table 8

ESTIMATES - TENNESSEE NON-PUBLIC SCHOOLS

SCHOOL YEAR	BIRTHS YEAR	BIRTHS NUMBER	RATIO FIRST GRADE/ BIRTHS	Total Enrollments Distributed To Grades* 1	2	3	4	5	6	7	8	9	10	11	12	RATIO GRADS/ 12TH GRADE	GRADS**
1985-86	1979	68,326	0.089	6,065	6,023	5,905	5,516	5,234	5,021	5,452	4,914	4,141	3,806	4,008	3,363	0.862	2,899
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1986-87	1980	69,102	0.090	6,231	5,408	5,589	5,153	4,849	4,663	4,506	4,746	3,924	4,007	3,561	3,752	0.862	3,234
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1987-88	1981	67,050	0.089	5,999	5,558	5,019	4,879	4,529	4,320	4,183	3,925	3,792	3,798	3,751	3,333	0.862	2,873
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1988-89	1982	67,078	0.089	6,001	5,351	5,158	4,381	4,289	4,036	3,875	3,643	3,136	3,671	3,555	3,511	0.862	3,026
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1989-90	1983	65,465	0.089	5,857	5,353	4,966	4,503	3,851	3,821	3,620	3,376	2,911	3,036	3,436	3,328	0.862	2,869
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1990-91	1984	64,937	0.089	5,810	5,224	4,968	4,335	3,958	3,431	3,428	3,153	2,697	2,818	2,841	3,216	0.862	2,772
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1991-92	1985	66,730	0.089	5,970	5,182	4,848	4,337	3,811	3,527	3,078	2,986	2,519	2,611	2,637	2,659	0.862	2,292
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1992-93	1986+	66,246	0.089	5,927	5,325	4,809	4,233	3,812	3,395	3,163	2,681	2,385	2,439	2,444	2,469	0.862	2,128
				0.892	0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1993-94	1987				5,287	4,942	4,198	3,720	3,397	3,045	2,755	2,142	2,309	2,283	2,287	0.862	1,972
					0.928	0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1994-95	1988					4,906	4,314	3,690	3,315	3,047	2,653	2,201	2,073	2,161	2,137	0.862	1,842
						0.873	0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1995-96	1989						4,283	3,792	3,288	2,973	2,654	2,119	2,131	1,941	2,023	0.862	1,744
							0.879	0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1996-97	1990							3,765	3,379	2,949	2,590	2,120	2,052	1,995	1,817	0.862	1,566
								0.891	0.897	0.871	0.799	0.968	0.936	0.936			
1997-98	1991								3,354	3,031	2,569	2,069	2,052	1,920	1,867	0.862	1,609
									0.897	0.871	0.799	0.968	0.936	0.936			
1998-99	1992									3,009	2,640	2,053	2,003	1,921	1,797	0.862	1,549
										0.871	0.799	0.968	0.936	0.936			
1999-00	1993										2,621	2,109	1,987	1,875	1,798	0.862	1,550
											0.799	0.968	0.936	0.936			
2000-01	1994											2,094	2,042	1,860	1,755	0.862	1,513
												0.968	0.936	0.936			
2001-02	1995												2,027	1,911	1,741	0.862	1,501
													0.936	0.936			
2002-03	1996													1,897	1,789	0.862	1,542
														0.936			
2003-04	1997														1,776	0.862	1,531

*Total enrollments for 1985-86 and 1986-87 were distributed to grades in proportion to non-public grade-level enrollments in a comparable state.
Ratios are the actual ratios between 1985-86 and 1986-87 enrollments, the ratio between birth and first grade is a two-year simple average.
**Graduate data is not available for Tennessee's non-public schools. Projections are based on a smoothed six-year average ratio between public twelfth graders and graduates.
+Births for 1986 are provisional.

Source: Total enrollments are taken from QED's School Guide, 1985-86 and 1986-87.